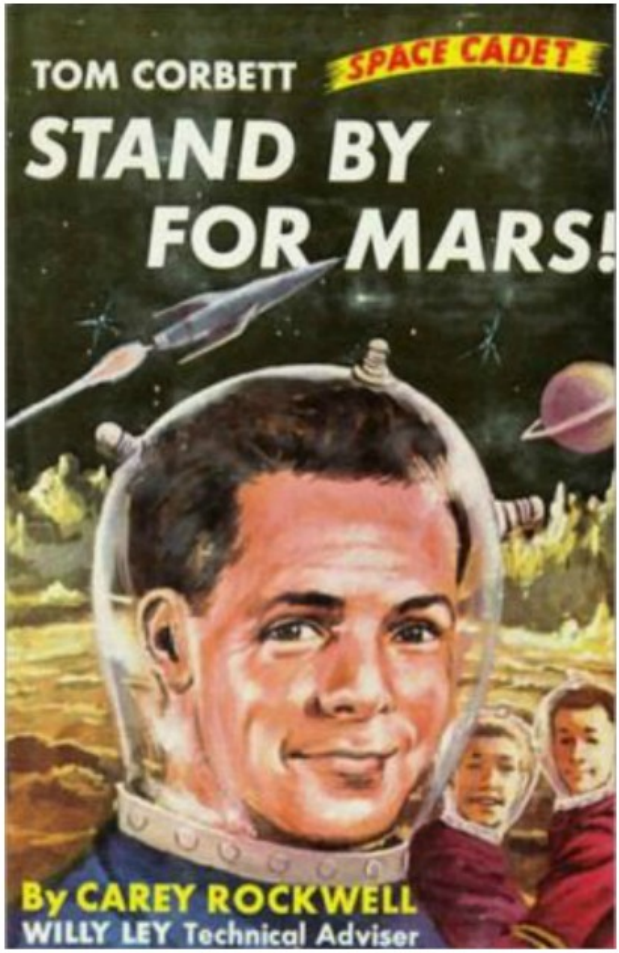
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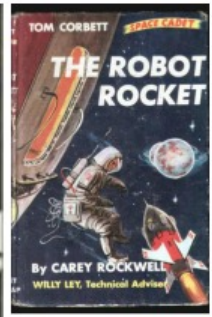
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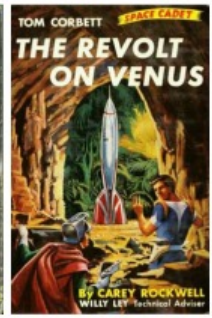
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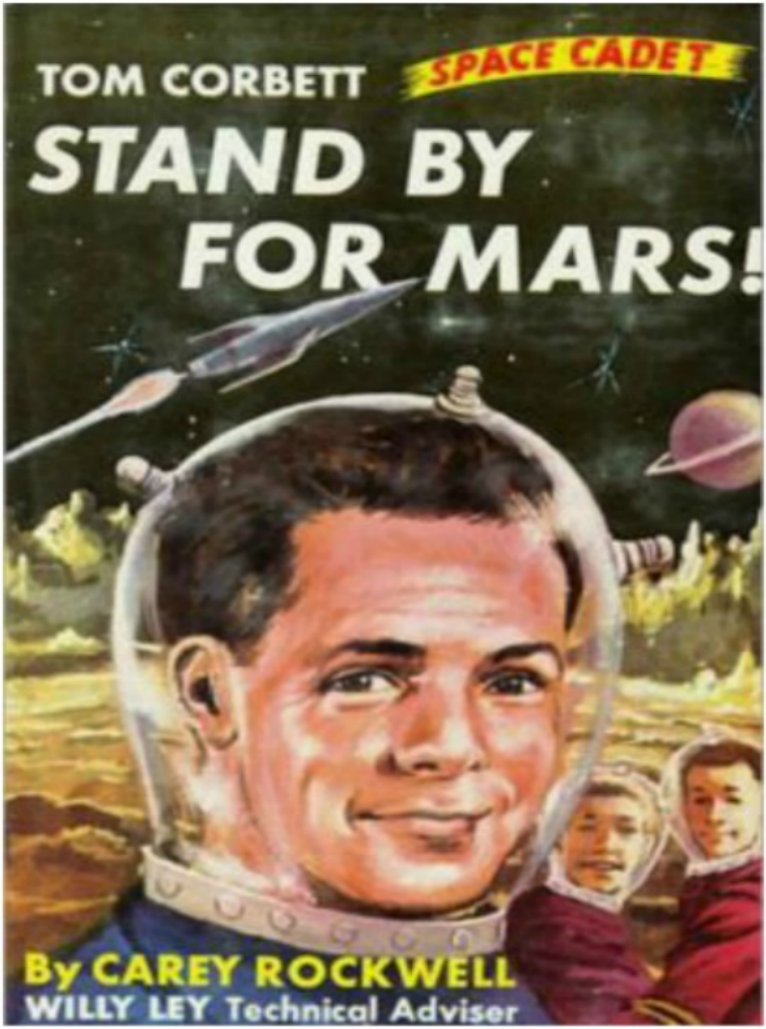
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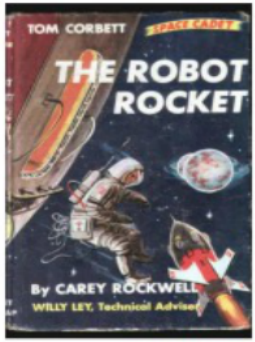
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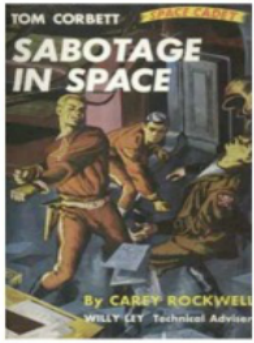
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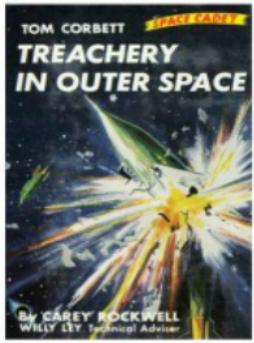
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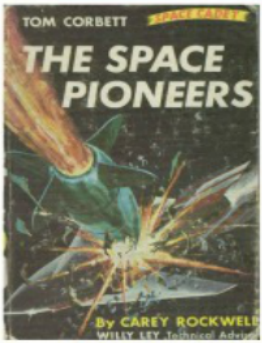
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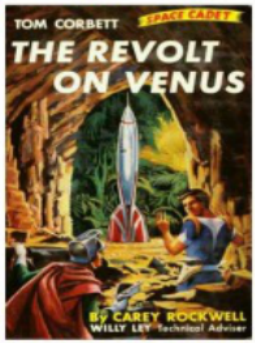
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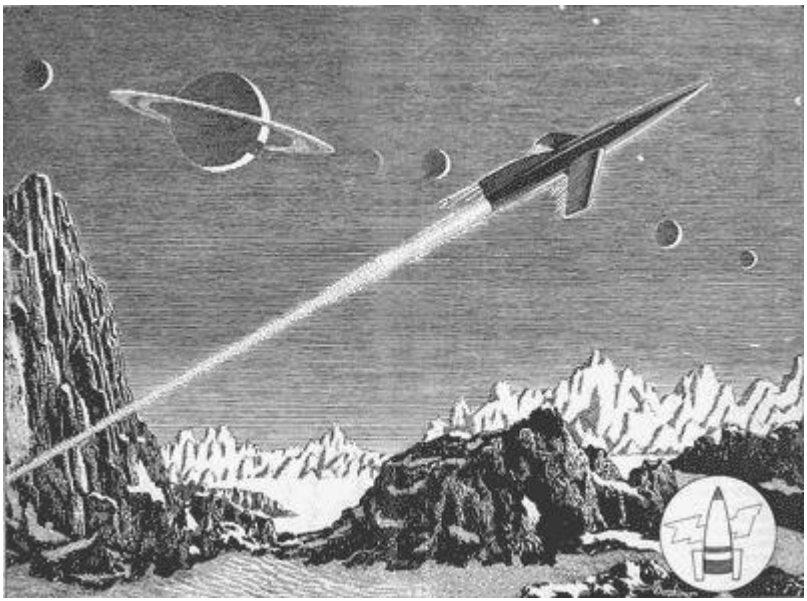
Tom Corbett

Space Cadet

by

Carey Rockwell



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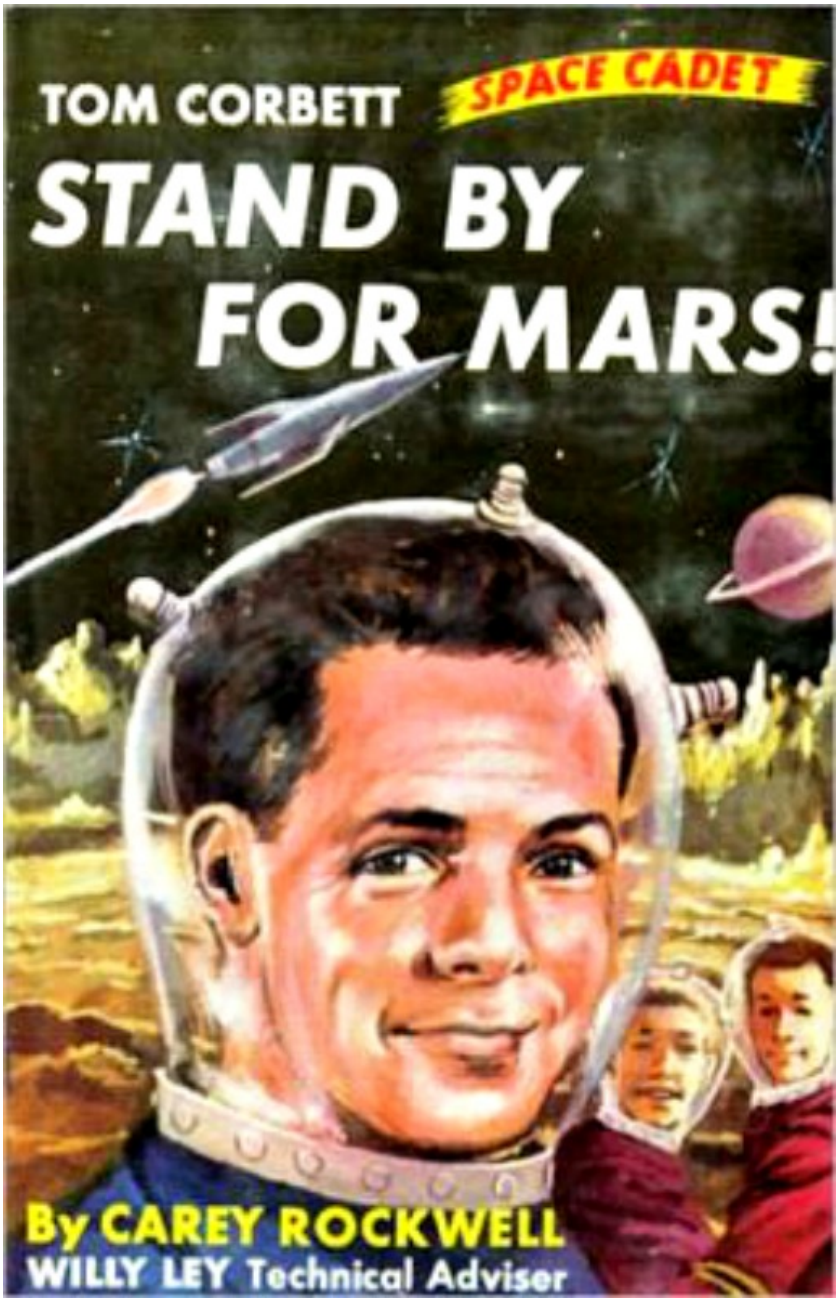
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Stand By For Mars!

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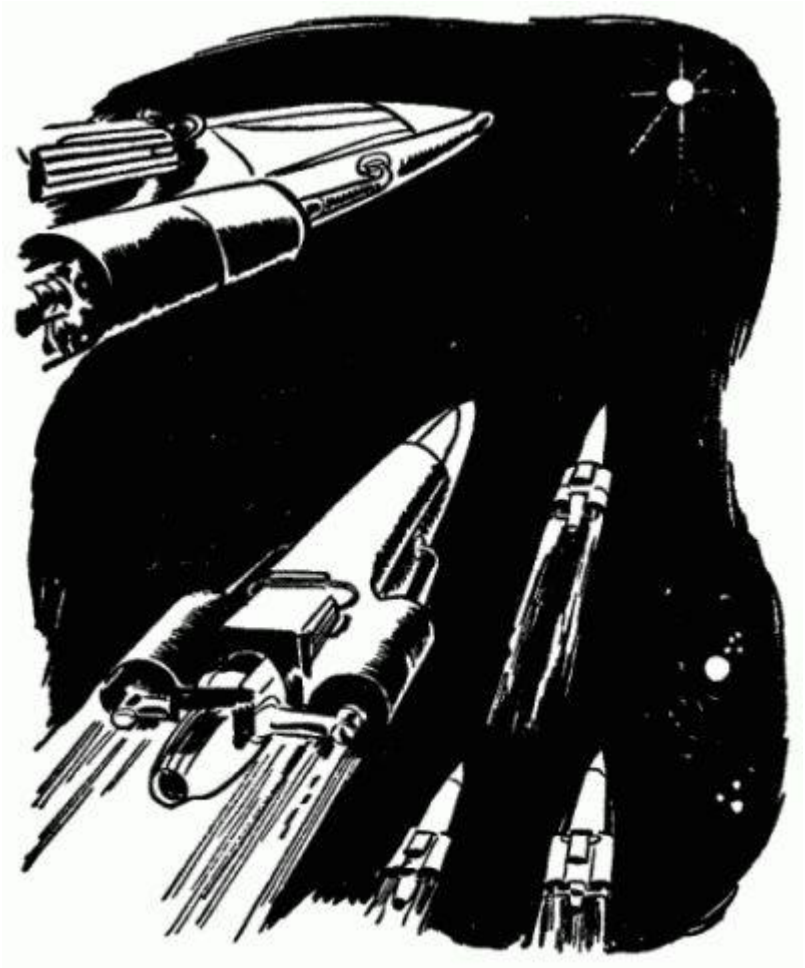

A TOM CORBETT Space Cadet Adventure

STAND BY FOR MARS!

By CAREY ROCKWELL

WILLY LEY *Technical Adviser*

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The scarlet-clad figure stood before them

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CHAPTER 1

"Stand to, you rocket wash!"

A harsh, bull-throated roar thundered over the platform of the monorail station at Space Academy and suddenly the lively chatter and laughter of more than a hundred boys was stilled. Tumbling out of the gleaming monorail cars, they froze to quick attention, their eyes turned to the main exit ramp.

They saw a short, squat, heavily built man, wearing the scarlet uniform of the enlisted Solar Guard, staring down at them, his fists jammed into his hips and his feet spread wide apart. He stood there a moment, his sharp eyes flicking over the silent clusters, then slowly sauntered down the ramp toward them with a strangely light, catfooted tread.

"Form up! Column of fours!"

Almost before the echoes of the thunderous voice died down, the scattered groups of boys had formed themselves into four ragged lines along the platform.

The scarlet-clad figure stood before them, his seamed and weather-beaten face set in stern lines. But there was a glint of laughter in his eyes as he noticed the grotesque and sometimes tortuous positions of some of the boys as they braced themselves in what they considered a military pose.

Every year, for the last ten years, he had met the trains at the monorail station. Every year, he had seen boys in their late teens, gathered from Earth, Mars and Venus, three planets millions of miles apart. They were dressed in many different styles of clothes; the loose flowing robes of the lads from the Martian deserts; the knee-length shorts and high stockings of the boys from the Venusian jungles; the vari-colored jacket and trouser combinations of the boys from the magnificent Earth cities. But they all had one thing in common —a dream. All had visions of becoming Space Cadets, and later, officers in the Solar Guard. Each dreamed of the day when he would command rocket ships that patrolled the space lanes from the outer edges of Pluto to the twilight zone of Mercury. They were all the same.

"All right now! Let's get squared away!" His voice was a little more friendly now. "My name's McKenny—Mike McKenny. Warrant Officer—Solar Guard. See these hash marks?"

He suddenly held out a thick arm that bulged against the tight red sleeve. From the wrists to the elbow, the lines of boys could see a solid corrugation of white V-shaped stripes.

"Each one of these marks represents four years in space," he continued. "There's ten marks here and I intend making it an even dozen! And no bunch of Earthworms is going to make me lose the chance to get those last two by

trying to make a space monkey out of me!"

McKenny sauntered along the line of boys with that same strange catlike step and looked squarely into the eyes of each boy in turn.

"Just to keep the record straight, I'm your cadet supervisor. I handle you until you either wash out and go home, or you finally blast off and become spacemen. If you stub your toe or cut your finger, come to me. If you get homesick, come to me. And if you get into trouble"—he paused momentarily —"don't bother because I'll be looking for *you*, with a fist full of demerits!"

McKenny continued his slow inspection of the ranks, then suddenly stopped short. At the far end of the line, a tall, ruggedly built boy of about eighteen, with curly brown hair and a pleasant, open face, was stirring uncomfortably. He slowly reached down toward his right boot and held it, while he wriggled his foot into it. McKenny quickly strode over and planted himself firmly in front of the boy.

"When I say stand to, I mean stand to!" he roared.

The boy jerked himself erect and snapped to attention.

"I—I'm sorry, sir," he stammered. "But my boot—it was coming off and—"

"I don't care if your pants are falling down, an order's an order!"

The boy gulped and reddened as a nervous titter rippled through the ranks. McKenny spun around and glared. There was immediate silence.

"What's your name?" He turned back to the boy.

"Corbett, sir. Cadet Candidate Tom Corbett," answered the boy.

"Wanta be a spaceman, do ya?" asked Mike, pushing his jaw out another inch.

"Yes, sir!"

"Been studying long hard hours in primary school, eh? Talked your mother and father deaf in the ears to let you come to Space Academy and be a spaceman! You want to feel those rockets bucking in your back out in the stars? *EH?*"

"Yes, sir," replied Tom, wondering how this man he didn't even know could know so much about him.

"*Well, you won't make it* if I ever catch you disobeying orders again!"

McKenny turned quickly to see what effect he had created on the others. The lines of bewildered faces satisfied him that his old trick of using one of the cadets as an example was a success. He turned back to Corbett.

"The only reason I'm not logging you now is because you're not a Space Cadet yet—and won't be, until you've taken the Academy oath!"

"Yes, sir!"

McKenny walked down the line and across the platform to an open teleceiver booth. The ranks were quiet and motionless, and as he made his call, McKenny smiled. Finally, when the tension seemed unbearable, he roared, "At ease!" and closed the door of the booth.

The ranks melted immediately and the boys fell into chattering clusters, their voices low, and they occasionally peered over their shoulders at Corbett

as if he had suddenly been stricken with a horrible plague.

Brooding over the seeming ill-fortune that had called McKenny's attention to him at the wrong time, Tom sat down on his suitcase to adjust his boot. He shook his head slowly. He had heard Space Academy was tough, tougher than any other school in the world, but he didn't expect the stern discipline to begin so soon.

"This could be the beginning of the end," drawled a lazy voice in back of Tom, "for some of the more enthusiastic cadets." Someone laughed.

Tom turned to see a boy about his own age, weight and height, with close-cropped blond hair that stood up brushlike all over his head. He was lounging idly against a pillar, luggage piled high around his feet. Tom recognized him immediately as Roger Manning, and his pleasant features twisted into a scowl.

"About what I'd expect from that character," he thought, "after the trick he pulled on Astro, that big fellow from Venus."

Tom's thoughts were of the night before, when the connecting links of transportation from all over the Solar Alliance had deposited the boys in the Central Station at Atom City where they were to board the monorail express for the final lap to Space Academy.

Manning, as Tom remembered it, had taken advantage of the huge Venusian by tricking him into carrying his luggage. Reasoning that since the gravity of Venus was considerably less than that of Earth, he convinced Astro that he needed the extra weight to maintain his balance. It had been a cheap trick, but no one had wanted to challenge the sharpness of Manning's tongue and come to Astro's rescue. Tom had wanted to, but refrained when he saw that Astro didn't mind.

Finishing his conversation on the teleceiver, McKenny stepped out of the booth and faced the boys again.

"All right," he bawled. "They're all set for you at the Academy! Pick up your gear and follow me!" With a quick light step, he hopped on the rolling slidewalk at the edge of the platform and started moving away.

"Hey, Astro!" Roger Manning stopped the huge boy about to step over. "Going to carry my bags?"

The Venusian, a full head taller, hesitated and looked doubtfully at the four suitcases at Roger's feet.

"Come on," prodded Roger in a tone of mock good nature. "The gravity around here is the same as in Atom City. It's the same all over the face of the Earth. Wouldn't want you to just fly away." He snickered and looked around, winking broadly.

Astro still hesitated, "I don't know, Manning. I—uhh—"

"By the rings of Saturn! What's going on here?" Suddenly from outside the ring of boys that had gathered around, McKenny came roaring in, bulling his way to the center of the group to face Roger and Astro.

"I have a strained wrist, sir," began Roger smoothly.

"And this cadet candidate"—he nodded casually toward Astro—"offered to

carry my luggage. Now he refuses."

Mike glared at Astro. "Did you agree to carry this man's luggage?"

"Well—I—ah—" fumbled Astro.

"Well? Did you or didn't you?"

"I guess I sorta did, sir," replied Astro, his face turning a slow red.

"I don't hold with anyone doing another man's work, but if a Solar Guard officer, a Space Cadet, or even a cadet candidate gives his word he'll do something, he does it!" McKenny shook a finger in Astro's face, reaching up to do it. "Is that clear?"

"Yes, sir," was the embarrassed reply.

McKenny turned to Manning who stood listening, a faint smile playing on his lips.

"What's your name, Mister?"

"Manning. Roger Manning," he answered easily.

"So you've got a strained wrist, have you?" asked Mike mockingly while sending a sweeping glance from top to bottom of the gaudy colored clothes.

"Yes, sir."

"Can't carry your own luggage, eh?"

"Yes," answered Roger evenly. "I could carry my own luggage. I thought the candidate from Venus might give me a helping hand. Nothing more. I certainly didn't intend for him to become a marked man for a simple gesture of comradeship." He glanced past McKenny toward the other boys and added softly, "And comradeship *is* the spirit of Space Academy, isn't it, sir?"

His face suddenly crimson, McKenny spluttered, searching for a ready answer, then turned away abruptly.

"What are you all standing around for?" he roared. "Get your gear and yourselves over on that slidewalk! Blast!" He turned once again to the rolling platform. Manning smiled at Astro and hopped nimbly onto the slidewalk after McKenny, leaving his luggage in a heap in front of Astro.

"And be careful with that small case, Astro," he called as he drifted away.

"Here, Astro," said Tom. "I'll give you a hand."

"Never mind," replied Astro grimly. "I can carry 'em."

"No, let me help." Tom bent over—then suddenly straightened. "By the way, we haven't introduced ourselves. My name's Corbett—Tom Corbett." He stuck out his hand. Astro hesitated, sizing up the curly-headed boy in front of him, who stood smiling and offering friendship. Finally he pushed out his own hand and smiled back at Tom.

"Astro, but you know that by now."

"That sure was a dirty deal Manning gave you."

"Ah, I don't mind carrying his bags. It's just that I wanted to tell him he's going to have to send it all back. They don't allow a candidate to keep more than a toothbrush at the Academy."

"Guess he'll find out the hard way."

Carrying Manning's luggage as well as their own, they finally stepped on

the slidewalk and began the smooth easy ride from the monorail station to the Academy. Both having felt the sharpness of Manning's tongue, and both having been dressed down by Warrant Officer McKenny, they seemed to be linked by a bond of trouble and they stood close together for mutual comfort.

As the slidewalk whisked them silently past the few remaining buildings and credit exchanges that nestled around the monorail station, Tom gave thought to his new life.

Ever since Jon Builker, the space explorer, returning from the first successful flight to a distant galaxy, came through his home town near New Chicago twelve years before, Tom had wanted to be a spaceman. Through high school and the New Chicago Primary Space School where he had taken his first flight above Earth's atmosphere, he had waited for the day when he would pass his entrance exams and be accepted as a cadet candidate in Space Academy. For no reason at all, a lump rose in his throat, as the slidewalk rounded a curve and he saw for the first time, the gleaming white magnificence of the Tower of Galileo. He recognized it immediately from the hundreds of books he had read about the Academy and stared wordlessly.

"Sure is pretty, isn't it?" asked Astro, his voice strangely husky.

"Yeah," breathed Tom in reply. "It sure is." He could only stare at the shimmering tower ahead.

"It's all I've ever wanted to do," said Tom at length. "Just get out there and —be *free*!"

"I know what you mean. It's the greatest feeling in the world."

"You say that as if you've already been up there."

Astro grinned. "Yup. Used to be an enlisted space sailor. Bucked rockets in an old freighter on the Luna City—Venusport run."

"Well, what are you doing here?" Tom was amazed and impressed.

"Simple. I want to be an officer. I want to get into the Solar Guard and handle the power-push in one of those cruisers."

Tom's eyes glowed with renewed admiration for his new friend. "I've been out four or five times but only in jet boats five hundred miles out. Nothing like a jump to Luna City or Venusport."

By now the slidewalk had carried them past the base of the Tower of Galileo to a large building facing the Academy quadrangle and the spell was broken by McKenny's bull-throated roar.

"Haul off, you blasted polliwogs!"

As the boys jumped off the slidewalk, a cadet, dressed in the vivid blue that Tom recognized as the official dress of the Senior Cadet Corps, walked up to McKenny and spoke to him quietly. The warrant officer turned back to the waiting group and gave rapid orders.

"By twos, follow Cadet Herbert inside and he'll assign you to your quarters. Shower, shave if you have to and can find anything to shave, and dress in the uniform that'll be supplied you. Be ready to take the Academy oath at"—he paused and glanced at the senior cadet who held up three fingers—"fifteen

hundred hours. That's three o'clock. All clear? Blast off!"

Just as the boys began to move, there was a sudden blasting roar in the distance. The noise expanded and rolled across the hills surrounding Space Academy. It thundered over the grassy quadrangle, vibrating waves of sound one on top of the other, until the very air quivered under the impact.

Mouths open, eyes popping, the cadet candidates stood rooted in their tracks and stared as, in the distance, a long, thin, needlelike ship seemed to balance delicately on a column of flame, then suddenly shoot skyward and disappear.

"Pull in your eyeballs!" McKenny's voice crackled over the receding thunder. "You'll fly one of those firecrackers some day. But right now you're *Earthworms*, the lowest form of animal life in the Academy!"

As the boys snapped to attention again, Tom thought he caught a faint smile on Cadet Herbert's face as he stood to one side waiting for McKenny to finish his tirade. Suddenly he snapped his back straight, turned sharply and stepped through the wide doors of the building. Quickly the double line of boys followed.

"Did you see that, Astro?" asked Tom excitedly. "That was a Solar Guard patrol ship!"

"Yeah, I know," replied Astro. The big candidate from Venus scratched his chin and eyed Tom bashfully. "Say, Tom—ah, since we sort of know each other, how about us trying to get in the same quarters?"

"O.K. by me, Astro, if we can," said Tom, grinning back at his friend.

The line pressed forward to Cadet Herbert, who was now waiting at the bottom of the slidestairs, a mesh belt that spiraled upward in a narrow well to the upper stories of the building. Speaking into an audioscriber, a machine that transmitted his spoken words into typescript, he repeated the names of the candidates as they passed.

"Cadet Candidate Tom Corbett," announced Tom, and Herbert repeated it into the audioscriber.

"Cadet Candidate Astro!" The big Venusian stepped forward.

"What's the rest of it, Mister?" inquired Herbert.

"That's all. Just Astro."

"No other names?"

"No, sir," replied Astro. "You see—"

"You don't say 'sir' to a senior cadet, Mister. And we're not interested in why you have only one name!" Herbert snapped.

"Yes, sir—uhh—Mister." Astro flushed and joined Tom.

"Cadet Candidate Philip Morgan," announced the next boy.

Herbert repeated the name into the machine, then announced, "Cadet Candidates Tom Corbett, Astro, and Philip Morgan assigned to Section 42-D."

Turning to the three boys, he indicated the spiraling slidestairs. "Forty-second floor. You'll find Section D in the starboard wing."

Astro and Tom immediately began to pile Manning's luggage to one side of the slidestairs.

"Take your luggage with you, Misters!" snapped Herbert.

"It isn't ours," replied Tom.

"Isn't yours?" Herbert glanced over the pile of suitcases and turned back to Tom. "Whose is it then?"

"Belongs to Cadet Candidate Roger Manning," replied Tom.

"What are you doing with it?"

"We were carrying it for him."

"Do we have a candidate in the group who finds it necessary to provide himself with valet service?"

Herbert moved along the line of boys.

"Will Cadet Candidate Roger Manning please step forward?"

Roger slid from behind a group of boys to face the senior cadet's cold stare.

"Roger Manning here," he presented himself smoothly.

"Is that your luggage?" Herbert jerked his thumb over his shoulder.

"It is."

Roger smiled confidently, but Herbert merely stared coldly.

"You have a peculiar attitude for a candidate, Manning."

"Is there a prescribed attitude, Mr. Herbert?" Roger asked, his smile broadening. "If there is, I'll be only too glad to conform to it."

Herbert's face twitched almost imperceptibly. Then he nodded, made a notation on a pad and returned to his post at the head of the gaping line of boys. "From now on, Candidate Manning, you will be responsible for your own belongings."

Tom, Astro, and Philip Morgan stepped on the slidestairs and began their spiraling ascent to the forty-second floor.

"I saw what happened at the monorail station," drawled the third member of Section 42-D, leaning against the bannister of the moving belt. "By the craters of Luna, that Manning felluh sure is a hot operator."

"We found out for ourselves," grunted Astro.

"Say, since we're all bunkin' togethuh, let's get to knowin' each othuh. My name's Phil Morgan, come from Georgia. Where you all from?"

"New Chicago," replied Tom. "Name's Tom Corbett. And this is Astro."

"Hiya." Astro stuck out a big paw and grinned his wide grin. "I guess you heard. Astro's all the name I've got."

"How come?" inquired the Southerner.

"I'm from Venus and it's a custom from way back when Venus was first colonized to just hand out one name."

"Funny custom," drawled Phil.

Astro started to say something and then stopped, clamping his lips together. Tom could see his face turn a slow pink. Phil saw it too, and hastily added:

"Oh—I didn't mean anything. I—ah—" he broke off, embarrassed.

"Forget it, Phil." Astro grinned again.

"Say," interjected Tom. "Look at that!"

They all turned to look at the floor they were passing. Near the edge of the step-off platform on the fourth floor was an oaken panel, inscribed with silver lettering in relief. As they drew even with the plaque, they caught sight of someone behind them. They turned to see Manning, the pile of suitcases in front of him, reading aloud.

"… to the brave men who sacrificed their lives in the conquest of space, this Galaxy Hall is dedicated…"

"Say, this must be the museum," said Tom. "Here's where they have all the original gear used in the first space hops."

"Absolutely right," said Manning with a smile.

"I wonder if we could get off and take a look?" Astro asked.

"Sure you can," said Roger. "In fact, the Academy regs say every cadet must inspect the exhibits in the space museum within the first week."

The members of Section 42-D looked at Roger questioningly.

"I don't know if we have time." Tom was dubious.

"Sure you have—plenty. I'd hop off and take a look myself but I've got to get this junk ready to ship home." He indicated the pile of bags in front of him.

"Aw, come on, Tom, let's take a look!" urged Astro. "They have the old *Space Queen* in here, the first ship to clear Earth's gravity. Boy, I'd sure like to see her!" Without waiting for the others to agree, the huge candidate stepped off the slidestairs.

"Hey, Astro!" yelled Tom. "Wait! I don't think—" His voice trailed off as the moving stair carried him up to the next floor.

But then a curious thing happened. As other boys came abreast of the museum floor and saw Astro they began to get off and follow him, wandering around gazing at the relics of the past.

Soon nearly half of the cadet candidates were standing in silent awe in front of the battered hull of the *Space Queen*, the first atomic-powered rocket ship allowed on exhibition only fifty years before because of the deadly radioactivity in her hull, created when a lead baffle melted in midspace and flooded the ship with murderous gamma rays.

They stood in front of the spaceship and listened while Astro, in a hushed voice, read the inscription on the bronze tablet.

"—Earth to Luna and return. 7th March 2051. In honor of the brave men of the first atomic-powered spaceship to land successfully on the planet Moon, only to perish on return to Earth…"

"Candidates—staaaaaaaaannnnnd *too*!"

Like a clap of thunder Warrant Officer McKenny's voice jarred the boys out of their silence. He stepped forward like a bantam rooster and faced the startled group of boys.

"I wanna know just *one* thing! Who stepped off that slidestairs *first*?"

The boys all hesitated.

"I guess I was the first, sir," said Astro, stepping forward.

"Oh, you guess you were, eh?" roared McKenny.

Taking a deep breath McKenny launched into a blistering tirade. His choice of words were to be long remembered by the group and repeated to succeeding classes. Storming against the huge Venusian like a pygmy attacking an elephant, McKenny roared, berated and blasted.

Later, when Astro finally reached his quarters and changed into the green coveralls of the cadet candidates, Tom and Phil crowded around him.

"It was Roger, blast him!" said Tom angrily. "He was getting back at you because Cadet Herbert made him carry his own gear."

"I asked for it," grumbled Astro. "Ah, I should've known better. But I just couldn't wait to see the *Queen*." He balled his huge hands into tight knots and stared at the floor.

"Now hear this!!!"

A voice suddenly rasped over the PA system loud-speaker above the door. "All cadet candidates will come to attention to receive the Space Academy oath from Commander Walters." The voice paused. "*AT-TENT-SHUN!* Cadet candidates—Staaaaannnnd *TO*!"

"This is Commander Walters speaking!" A deep, powerful voice purred through the speaker. "The Academy oath is taken individually.

"It is something each candidate locks in his spirit, his mind and his heart. That is why it is taken in your quarters. The oath is not a show of color, it is a way of life. Each candidate will face as closely as possible in the direction of his home and swear by his own individual God as he repeats after me."

Astro stepped quickly to the window port and gazed into the blue heavens, eyes searching out the misty planet Venus. Phil Morgan thought a moment, and faced toward the wall with the inlaid star chart of the sky, thinking of sun-bathed Georgia. Tom Corbett stared straight at a blank wall.

Each boy did not see what was in front of him yet he saw further, perhaps, than he had ever seen before. He looked into a future which held the limitlessness of the universe and new worlds and planets to be lifted out of the oblivion of uncharted depths of space to come.

They repeated slowly…

"… I solemnly swear to uphold the Constitution of the Solar Alliance, to obey interplanetary law, to protect the liberties of the planets, to safeguard the freedom of space and to uphold the cause of peace throughout the universe… to this end, I dedicate my life!"

CHAPTER 2

Tom Corbett's first day at Space Academy began at 0530 hours with the blaring of the *Cadet Corps Song* over the central communicators:

"*From the rocket fields of the Academy*
To the far-flung stars of outer space,
We're Space Cadets training to be
Ready for dangers we may face.

Up in the sky, rocketing past
Higher than high, faster than fast,
Out into space, into the sun
Look at her go when we give her the gun.

From the rocket fields of the…"

Within sixty seconds, the buildings of the Academy rocked with the impact of three thousand voices singing the last stanza. Lights flashed on in every window. Cadets raced through the halls and across the quadrangle. The central communicator began the incessant mustering of cadets, and the never-ending orders of the day.

"… Unit 38-Z report to Captain Edwards for astrogation. Unit 68-E report to Commander Walters for special assignments."

On and on, down the list of senior cadets, watch officers, and the newly arrived Earthworms. Units and individuals to report for training or study in everything from ground assembly of an atomic rocket motor, to the history of the founding of the Solar Alliance, the governing body of the tri-planet civilization.

Tom Corbett stepped out of the shower in Section 42-D and bellowed at the top of his voice.

"Hit the deck, Astro! Make use of the gravity!" He tugged at an outsized foot dangling over the side of an upper bunk.

"Uhhhh-ahhhh-hummmmm," groaned the cadet from Venus and tried to go back to sleep.

Philip Morgan stepped into the shower, turned on the cold water, screeched at the top of his voice, gradually trailing off into countless repetitions of the last verse of the Academy song.

"Damp your tubes, you blasted space monkey," roared Astro, sitting up bleary-eyed.

"What time do we eat?" asked Tom, pulling on the green one-piece coverall of the Earthworm cadet candidates.

"I don't know," replied Astro, opening his mouth in a cavernous yawn. "But it'd better be soon. I like space, but not between my backbone and my stomach!"

Warrant Officer McKenny burst into the room and began to compete with the rest of the noise outside the buildings.

"Five minutes to the dining hall and you'd better not be late! Take the slidestairs down to the twenty-eighth floor. Tell the mess cadet in charge of the hall your unit number and he'll show you to the right table. Remember where it is, because you'll have to find it yourself after that, or not eat. Finish your breakfast and report to the ninety-ninth floor to Dr. Dale at seven hundred hours!"

And as fast as he had arrived, he was gone, a flash of red color with rasping voice trailing behind.

Exactly one hour and ten minutes later, promptly at seven o'clock, the three members of Unit 42-D stood at attention in front of Dr. Joan Dale, along with the rest of the green-clad cadets.

When the catcalls and wolf whistles had died away, Dr. Dale, pretty, trim, and dressed in the gold and black uniform of the Solar Guard, held up her hand and motioned for the cadets to sit down.

"My answer to your—" she paused, smiled and continued, "your enthusiastic welcome is simply—thank you. But we'll have no further repetitions. This is Space Academy—not a primary school!"

Turning abruptly, she stood beside a round desk in the well of an amphitheater, and held up a thin tube about an inch in diameter and twelve inches long.

"We will now begin your classification tests," she said. "You will receive one of these tubes. Inside, you will find four sheets of paper. You are to answer all the questions on each paper and place them back in the tube. Take the tube and drop it in the green outline slot in this wall."

She indicated a four-inch-round hole to her left, outlined with green paint. Beside it, was another slot outlined with red paint. "Remain there until the tube is returned to you in the red slot. Take it back to your desk." She paused and glanced down at her desk.

"Now, there are four possible classifications for a cadet. Control-deck officer, which includes leadership and command. Astrogation officer, which includes radar and communications. And power-deck officer for engine-room operations. The fourth classification is for advanced scientific study here at the Academy. Your papers are studied by an electronic calculator that has proven infallible. You must make at least a passing grade on each of the four classifications."

Dr. Dale looked up at the rows of upturned, unsmiling faces and stepped from the dais, coming to a halt near the first desk.

"I know that all of you here have your hearts set on becoming spacemen, officers in the Solar Guard. Most of you want to be space pilots. But there must be astrogators, radar engineers, communication officers and power-deck operators on each ship, and," she paused, braced her shoulders and added, "some of you will not be accepted for any of these. Some of you will wash out."

Dr. Dale turned her back on the cadets, not wanting to look at the sudden pallor that washed over their faces. It was brutal, she thought, this test. Why bring them all the way to the Academy and then give the tests? Why not start the entrance exams at the beginning with the classification and aptitude? But she knew the answer even before the thoughtful question was completed. Under the fear of being washed out, the weaker ones would not pass. The Solar Guard could not afford to have cadets and later Solar Guard officers who could not function under pressure.

She began handing out the tubes and, one by one, the green-clad candidates stepped to the front of the room to receive them.

"Excuse me, Ma'am," said one cadet falteringly. "If—if—I wash out as a cadet—as a Solar Guard officer cadet"—he gulped several times—"does that mean there isn't any chance of becoming a spaceman?"

"No," she answered kindly. "You can become a member of the enlisted Solar Guard, if you can pass the acceleration tests."

"Thank you, Ma'am," replied the boy and turned away nervously.

Tom Corbett accepted the tube and hurried back to his seat. He knew that this was the last hurdle. He did not know that the papers had been prepared individually, the tests given on the basis of the entrance exams he had taken back at New Chicago Primary Space School.

He opened the tube, pulling out the four sheets, printed on both sides of the paper, and read the heading on the first: ASTROGATION, COMMUNICATIONS, SIGNALS (*Radar*)

He studied the first question.

"… What is the range of the Mark Nine radar-scope, and how far can a spaceship be successfully distinguished from other objects in space?…"

He read the question four times, then pulled out a pencil and began to write.

Only the rustle of the papers, or the occasional sigh of a cadet over a problem, disturbed the silence in the high-ceilinged room, as the hundred-odd

cadets fought the questions.

There was a sudden stir in the room and Tom looked up to see Roger Manning walk to the slot and casually deposit his tube in the green-bordered slot. Then he leaned idly against the wall waiting for it to be returned. As he stood there, he spoke to Dr. Dale, who smiled and replied. There was something about his attitude that made Tom boil. So fast? He glanced at his own papers. He had hardly finished two sheets and thought he was doing fine. He clenched his teeth and bent over the paper again, redoubling his efforts to triangulate a fix on Regulus by using dead reckoning as a basis for his computations.

Suddenly a tall man, wearing the uniform of a Solar Guard officer, appeared in the back of the room. As Dr. Dale looked up and smiled a greeting, he placed his finger on his lips. Steve Strong, Captain in the Solar Guard, gazed around the room at the backs bent over busy pencils. He did not smile, remembering how, only fifteen years before, he had gone through the same torture, racking his brains trying to adjust the measurements of a magnascope prism. He was joined by a thin handsome young man, Lieutenant Judson Saminsky, and finally, Warrant Officer McKenny. They nodded silently in greeting. It would be over soon. Strong glanced at the clock over the desk. Another ten minutes to go.

The line of boys at the slots grew until more than twenty stood there, each waiting patiently, nervously, for his turn to drop the tube in the slot and receive in return the sealed cylinder that held his fate.

Still at his desk, his face wet with sweat, Astro looked at the question in front of him for the fifteenth time.

"… Estimate the time it would take a 300-ton rocket ship with half-filled tanks, cruising at the most economical speed to make a trip from Titan to Venusport. (a) Estimate size and maximum capacity of fuel tanks. (b) Give estimate of speed ship would utilize…"

He thought. He slumped in his chair. He stared at the ceiling. He chewed his pencil…

Five seats away, Tom stacked his examination sheets neatly, twisted them into a cylinder and inserted them in the tube. As he passed the line of desks and headed for the slot, a hand caught his arm. Tom turned to see Roger Manning grinning at him.

"Worried, spaceboy?" asked Roger easily. Tom didn't answer. He simply withdrew his arm.

"You know," said Roger, "you're really a nice kid. It's a shame you won't make it. But the rules specifically say 'no cabbageheads.'"

"No talking!" Dr. Dale called sharply from her desk.

Tom walked away and stood in the line at the slots. He found himself wanting to pass more than anything in the world. "Please," he breathed, "please, just let me pass—"

A soft gong began to sound. Dr. Dale stood up.

"Time's up," she announced. "Please put your papers in the tubes and drop them in the slot."

Tom turned to see Astro stuffing his papers in the thin cylinder disgustedly. Phil Morgan came up and stood in back of Tom. His face was flushed.

"Everything O.K., Phil?" inquired Tom.

"Easy as free falling in space," replied the other cadet, his soft Georgian drawl full of confidence. "How about you?"

"I'm just hoping against hope."

The few remaining stragglers hurried up to the line.

"Think Astro'll make it?" asked Phil.

"I don't know," answered Tom, "I saw him sweating over there like a man facing death."

"I guess he is—in a way."

Astro took his place in line and shrugged his shoulders when Tom leaned forward to give him a questioning look.

"Go ahead, Tom," urged Phil. Tom turned and dropped his tube into the green-bordered slot and waited. He stared straight at the wall in front of him, hardly daring to breathe. Presently, the tube was returned in the red slot. He took it, turned it over in his hands and walked slowly back to his desk.

"You're washed out, cabbagehead!" Manning's whisper followed him. "Let's see if you can take it without bawling!"

Tom's face burned and he fought an impulse to answer Manning with a stiff belt in the jaw. But he kept walking, reached his desk and sat down.

Astro, the last to return to his desk, held the tube out in front of him as if it were alive. The room was silent as Dr. Dale rose from her desk.

"All right now, boys," she announced. "Inside the tubes you will find colored slips of paper. Those of you who have red slips will remain here. Those who find green slips will return to their quarters. Blue will go with Captain Strong, orange with Lieutenant Saminsky, and purple with Warrant Officer McKenny. Now—please open the tubes."

There was a tinkling of metal caps and then the slight rustle of paper as each boy withdrew the contents of the tube before him.

Tom took a deep breath and felt inside for the paper. He held his breath and pulled it out. It was green. He didn't know what it meant. He looked around. Phil was signaling to him, holding up a blue slip. Tom's heart skipped a beat. Whatever the colors meant, he and Phil were apart. He quickly turned around and caught Astro's eye. The big Venusian held up a green slip. Tom's heart then nearly stopped beating. Phil, who had breezed through with such confidence, held a blue slip, and Astro, who hadn't even finished the test, held up the same color that he had. It could only mean one thing. Failure. He felt the tears welling in his eyes, but had no strength left to fight them back.

He looked up, his eyes meeting the insolent stare of Roger Manning who was half turned in his seat. Remembering the caustic warning of the confident cadet, Tom fought back the flood in his eyes and glared back.

What would he tell his mother? And his father? And Billy, his brother, five years younger than himself, whom he had promised to bring a flask of water from the Grand Canal on Mars. And his sister! Tom remembered the shining pride in her eyes when she kissed him good-bye at the Stratoport as he left for Atom City.

From the front of the room, McKenny's rasping voice jarred him back to the present.

"Cadets—staaaaaaaand *to*!"

There was a shuffle of feet as the boys rose as one.

"All the purple slips follow me," he roared and turned toward the door. The cadets with purple slips marched after him.

Lieutenant Saminsky stepped briskly to the front of the room.

"Cadets with orange slips will please come with me," he said casually, and another group of cadets left the room.

From the rear of the room Captain Strong snapped out an order.

"Blue slips will come with me!"

He turned smartly and followed the last of Lieutenant Saminsky's cadets out of the room.

Tom looked around. The room was nearly empty now. He looked over at Astro and saw his big friend slumped moodily over against his desk. Then, suddenly, he noticed Roger Manning. The arrogant cadet was not smiling any longer. He was staring straight ahead. Before him on the desk, Tom could see a green slip. So he had failed too, thought Tom grimly. It was poor solace for the misery he felt.

Dr. Dale stepped forward again.

"Will the cadets holding green slips return to their quarters. Those with red slips will remain in their seats," she announced.

Tom found himself moving with difficulty. As he walked through the door, Astro joined him. A look more eloquent than words passed between them and they made their way silently up the slidestairs back to their quarters.

Lying in his bunk, hands under his head, eyes staring into space, Tom asked, "What happens now?"

Sprawled on his bunk, Astro didn't answer right away. He merely gulped and swallowed hard.

"I—I don't know," he finally stammered. "I just don't know."

"What'll you do?"

"It's back to the hold of a Venusport freighter, I guess. I don't know." Astro paused and looked at Tom. "What'll you do?"

"Go home," said Tom simply. "Go home and—and find a job."

"Ever think about the enlisted Solar Guard? Look at McKenny—"

"Yeah—but—"

"I know how you feel," sighed Astro. "Being in the enlisted section—is like—well, being a passenger—almost."

The door was suddenly flung open.

"Haul off them bunks, you blasted Earthworms!"

McKenny stood in the doorway in his usual aggressive pose, and Tom and Astro hit the floor together to stand at attention.

"Where's the other cadet?"

"He went with Captain Strong, sir." answered Tom.

"Oh?" said Mike. And in a surprisingly soft tone he added, "You two pulled green slips, eh?"

"Yes, sir," they replied together.

"Well, I don't know how you did it, but congratulations. You passed the classification tests. Both of you."

Tom just looked at the scarlet-clad, stumpy warrant officer. He couldn't believe his ears. Suddenly he felt as if he had been lifted off his feet. And then he realized that he *was* off his feet. Astro was holding him over his head. Then he dumped him in his bunk as easily as if he had been a child. And at the same time, the big Venusian let out a loud, long, earsplitting yell.

McKenny matched him with his bull-like roar.

"Plug that foghorn, you blasted Earthworm. You'll have the whole Academy in here thinking there's a murder."

By this time Tom was on his feet again, standing in front of McKenny.

"You mean, we made it? We're really in? We're cadets?"

"That's right." McKenny looked at a clip board in his hand and read, "Cadet Corbett, Tom. Qualified for control deck. Cadet Astro. Power deck."

Astro took a deep breath and started another yell, but before he could let go, McKenny clamped a big hand over his mouth.

"You bellow like that again and I'll make meteor dust out of you!"

Astro gulped and then matched Tom's grin with one that spread from ear to ear.

"What happened to Philip Morgan?" asked Tom.

"What color slip did he have?"

"Blue."

"Anything besides green washed out," replied Mike quickly. "Now let's see, you have a replacement for Morgan in this unit. An astrogator."

"Greetings, gentlemen," drawled a voice that Tom recognized without even looking. "Allow me to introduce myself to my new unit-mates. My name is Manning—Roger Manning. But then, we're old friends, aren't we?"

"Stow that rocket wash, Manning," snapped Mike. He glanced at the clock over the door. "You have an hour and forty-five minutes until lunch time. I suggest you take a walk around the Academy and familiarize yourselves with the arrangement of the buildings."

And then, for the first time, Tom saw the hard little spaceman smile.

"I'm glad you made it, boys. All three of you." He paused and looked at each of them in turn. "And I can honestly say I'm looking forward to the day when I can serve under you!"

He snapped his back straight, gave the three startled boys a crisp salute,

executed a perfect about-face and marched out of the room.

"And that," drawled Roger, strolling to the bunk nearest the window, "is the corniest bit of space gas I've ever heard."

"Listen, Manning!" growled Astro, spinning around quickly to face him.

"Yeah," purred Roger, his eyes drawn to fine points, hands hanging loosely at his sides. "What would you like me to listen to, Cadet Astro?"

The hulking cadet lunged at Manning, but Tom quickly stepped between them.

"Stow it, both of you!" he shouted. "We're in this room together, so we might as well make the best of it."

"Of course, Corbett—of course," replied Manning easily. He turned his back on Astro, who stood, feet wide apart, neck muscles tight and hands clenched in hamlike fists.

"One of these days I'll break you in two, Manning. I'll close that fast-talking mouth of yours for good!"

Astro's voice was a low growl. Roger stood near the window port and appeared to have forgotten the incident.

The light shining in from the hallway darkened, and Tom turned to see three blue-clad senior cadets arranged in a row just inside the door.

"Congratulations, gentlemen. You're now qualified cadets of Space Academy," said a redheaded lad about twenty-one. "My name is Al Dixon," he turned to his left and right, "and these are cadets Bill Houseman and Rodney Withrop."

"Hiya," replied Tom. "Glad to know you. I'm Tom Corbett. This is Astro—and Roger Manning."

Astro shook hands, the three senior cadets giving a long glance at the size of the hand he offered. Roger came forward smartly and shook hands with a smile.

"We're sorta like a committee," began Dixon. "We've come to sign you up for the Academy sports program."

They made themselves comfortable in the room.

"You have a chance to take part in three sports. Free-fall wrestling, mercuryball and space chess." Dixon glanced at Houseman and Withrop. "From the looks of Cadet Astro, free-fall wrestling should be child's play for him!"

Astro merely grinned.

"Mercuryball is pretty much like the old game of soccer," explained Houseman. "But inside the ball is a smaller ball filled with mercury, making it take crazy dips and turns. You have to be pretty fast even to touch it."

"Sounds like you have to be a little Mercurian yourself," smiled Tom.

"You do," replied Dixon. "Oh, yes, you three play as a unit. Competition starts in a few days. So if you've never played before, you might go down to the gym and start practicing."

"You mentioned space chess," asked Roger. "What's that?"

"It's really nothing more than maneuvers. Space maneuvers," said Dixon. "A glass case, a seven-foot cube, is divided by light shafts into smaller cubes of equal shape and size. Each man has a complete space squadron. Three model rocket cruisers, six destroyers and ten scouts. The ships are filled with gas to make them float, and your power is derived from magnetic force. The problem is to get a combination of cruisers and destroyers and scouts into a space section where it could knock out your opponent's ships."

"You mean," interrupted Astro, "you've got to keep track of all those ships at once?"

"Don't worry, Astro," commented Roger quickly. "You use your muscles to win for dear old 42-D in free-fall wrestling. Corbett here can pound down the grassy field for a goal in mercuryball, and I'll do the brainwork of space chess."

The three visiting cadets exchanged sharp glances.

"Everybody plays together, Manning," said Dixon. "You three take part in each sport as a unit."

"Of course," nodded Roger. "Of course—as a unit."

The three cadets stood up, shook hands all around and left. Tom immediately turned to Manning.

"What was the idea of that crack about brains?"

Manning slouched over to the window port and said over his shoulder, "I don't know how you and your king-sized friend here passed the classifications test, Corbett, and I don't care. But, as you say, we're a unit. So we might as well make adjustments."

He turned to face them with a cold stare.

"I know this Academy like the palm of my hand," he went on. "Never mind how, just take it for granted. *I know it.* I'm here for the ride. For a special reason I wouldn't care to have you know. I'll get my training and then pull out."

He took a step forward, his face a mask of bitterness.

"So from now on, you two guys leave me alone. You bore me to death with your emotional childish allegiance to this—this"—he paused and spit the last out cynically—"space kindergarten!"

CHAPTER 3

"I just can't understand it, Joan," said Captain Steve Strong, tossing the paper on his circular desk. "The psychographs of Corbett, Manning and Astro fit together like gears. And yet—"

The Solar Guard officer suddenly rose and walked over to a huge window that filled the entire north wall of his office, a solid sheet of glass that extended from the high domed ceiling to the translucent flooring. Through the window, he stared down moodily toward the grassy quadrangle, where at the moment several hundred cadets were marching in formation under a hot sun.

"—And yet," continued Strong, "every morning for the last three weeks I've got a report from McKenny about some sort of friction between them!"

"I think it'll work out, Steve," answered the pretty girl in the uniform of the Solar Guard, seated in an easy chair on the other side of the desk.

Joan Dale held the distinction of being the first woman ever admitted into the Solar Guard, in a capacity other than administrative work. Her experiments in atomic fissionables was the subject of a recent scientific symposium held on Mars. Over fifty of the leading scientists of the Solar Alliance had gathered to study her latest theory on hyperdrive, and had unanimously declared her ideas valid. She had been offered the chair as Master of Physics at the Academy as a result, giving her access to the finest laboratory in the tri-planet society.

Now facing the problem of personality adjustment in Unit 42-D, she sat across the desk from her childhood friend, Steve Strong, and frowned.

"What's happened this time?"

"Manning." He paused. "It seems to be all Manning!"

"You mean he's the more aggressive of the three?"

"No—not necessarily. Corbett shows signs of being a number-one spaceman. And that big cadet, Astro"—Strong flashed a white smile that contrasted with his deep space tan—"I don't think he could make a manual mistake on the power deck if he tried. You know, I actually saw him put an auxiliary rocket motor together blindfolded!"

The pretty scientist smiled. "I could have told you that after one look at his classification tests."

"How?"

"On questions concerning the power-deck operations, he was letter perfect —"

"And on the others? Astrogation and control deck?"

"He just skimmed by. But even where the problem involved fuel, power, supply of energy, he offered some very practical answer to the problem." She smiled. "Astro is as much an artist on that power deck as Liddy Tamal doing Juliet in the stereos."

"Yes," mused Strong. "And Corbett is the same on the control deck. Good instinctive intelligence. That boy soaks up knowledge like a sponge."

"Facile mind—quick to grasp the essentials." She smiled again. "Seems to me I remember a few years back when a young lieutenant successfully put down a mutiny in space, and at his promotion to captain, the citation included the fact that he was quick to grasp the essentials."

Strong grinned sheepishly. A routine flight to Titan had misfired into open rebellion by the crew. Using a trick picked up in ancient history books of sea-roving pirates in the seventeenth century, he had joined the mutiny, gained control of the ship, sought out the ring-leaders and restored discipline.

"And Manning," asked Strong. "What about Manning?"

"One of the hardest, brightest minds I've come across in the Academy. He has a brain like a steel trap. He never misses."

"Then, do you think he's acting up because Corbett is the nominal head of the unit? Does he feel that he should be the command cadet in the control deck instead of Corbett?"

"No," replied Dr. Dale. "Not at all. I'm sure he intentionally missed problems about control deck and command in his classification test. He concentrated on astrogation, communications and signal radar. He wanted to be assigned to the radar deck. And he turned in the best paper I've ever read from a cadet to get the post."

Strong threw up his hands. "Then what is it? Here we have a unit, on paper at least, that could be number one. A good combination of brains, experience and knowledge. Everything that's needed. And what is the result? Friction!"

Suddenly a buzzer sounded, and on Steve Strong's desk a small teleceiver screen glowed into life. Gradually the stern face of Commander Walters emerged.

"Sorry to disturb you, Steve. Can you spare me a minute?"

"Of course, Commander," replied Strong. "Is anything wrong?"

"Very wrong, Steve. I've been looking over the daily performance reports on Unit 42-D."

"Dr. Dale and I have just been discussing that situation, sir." A relieved expression passed over the commander's face.

"Good! I wanted to get your opinions before I broke up the unit."

"No, sir!" said Strong quickly. "Don't do that!"

"Oh?" replied the commander. On the screen he could be seen settling back in his chair.

"And why not?"

"Well, Joan—er—Dr. Dale and myself feel that the boys of Unit 42-D make it potentially the best in the Academy—if they stay together, sir."

Walters considered this for a moment and then asked thoughtfully, "Give me one good reason why the unit shouldn't be washed out."

"The academy needs boys like this, sir," Steve answered flatly. "Needs their intelligence, their experience. They may be a problem now, but if they're handled right, they'll turn out to be ace spacemen, they'll—"

The commander interrupted. "You're pretty sold on them, aren't you, Steve?"

"Yes, sir, I am."

"You know, tomorrow all the units will be assigned to their personal instructors."

"Yes, sir. And I've selected Lieutenant Wolcheck for this unit. He's tough and smart. I think he's just the man for the job."

"I don't agree, Steve. Wolcheck is a fine officer and with any other unit there'd be no question. But I think we have a better man for the job."

"Whom do you suggest, sir?"

The commander leaned forward in his chair.

"You, Steve."

"Me?"

"What do you think, Joan?"

"I wanted to make the same suggestion, Commander," smiled Joan. "But I didn't know if Steve really would want the assignment."

"Well, what about it, Steve?" asked the commander. "This is no reflection on your present work. But if you're so convinced that 42-D is worth the trouble, then take them over and mold them into spacemen. Otherwise, I'll have to wash them out."

Strong hesitated a moment. "All right, sir. I'll do my best."

On the screen the stern lines in Commander Walters' face relaxed and he smiled approvingly.

"Thanks, Steve," he said softly. "I was hoping you'd say that. Keep me posted."

The screen blacked out abruptly and Captain Strong turned to Joan Dale, a troubled frown wrinkling his brow.

"Huh. I really walked into that one, didn't I?" he muttered.

"It isn't going to be easy, Steve," she replied.

"Easy!" He snorted and walked over to the window to stare blankly at the quadrangle below. "I'd almost rather try a landing on the hot side of Mercury. It would be icy compared to this situation!"

"You can do it, Steve. I know you can." Joan moved to his side to place a reassuring hand on his arm.

The Solar Guard officer didn't answer immediately. He kept on staring at the Academy grounds and buildings spread out before him. When he finally spoke, his voice rang with determination.

"I've got to do it, Joan. I've got to whip those boys into a unit. Not only for their sakes—but for the sake of the Academy!"

CHAPTER 4

The first three weeks of an Earthworm's life at Space Academy are filled with never-ending physical training and conditioning to meet the rigors of rocket flight and life on distant planets. And under the grueling pressure of fourteen-hour days, filled with backbreaking exercises and long forced marches, very few of the boys can find anything more desirable than sleep—and more sleep.

Under this pressure the friction in Unit 42-D became greater and greater. Roger and Astro continually needled each other with insults, and Tom gradually slipped into the role of arbiter.

Returning from a difficult afternoon of endless marching in the hot sun with the prospect of an evening of free-fall wrestling before them, the three cadets dragged themselves wearily onto the slidestairs leading to their quarters, their muscles screaming for rest.

"Another day like this," began Astro listlessly, "and I'm going to melt down to nothing. Doesn't McKenny have a heart?"

"No, just an asteroid," Tom grumbled. "He'll never know how close he came to getting a space boot in the face when he woke us up this morning. Oh, man! Was I tired!"

"Stop complaining, will you?" snarled Roger. "All I've heard from you two space crawlers is gripes and complaints."

"If I wasn't so tired, Roger," said Astro, "I'd give you something to gripe about. A flat lip!"

"Knock it off, Astro," said Tom wearily. The role of keeping them apart was getting tiresome.

"The trouble with you, Astro," pursued Roger, "is that you think with your muscles instead of your head."

"Yeah, I know. And you've got an electronic calculator for a brain. All you have to do is push a button and you get the answers all laid out for you."

They had reached their quarters now and were stripping off their sweat-soaked uniforms in preparation for a cool shower.

"You know, Roger," continued Astro, "you've got a real problem ahead of you."

"Any problem you think I have is no problem at all," was the cool reply.

"Yes, it is," insisted Astro. "When you're ready for your first hop in space, you won't be able to make it!"

"Why not?"

"They don't have a space helmet in the Academy large enough to fit that overinflated head of yours!"

Roger turned slowly and spoke to Tom without looking at him. "Close the door, Corbett!"

"Why?" asked Tom, puzzled.

"Because I don't want any interruptions. I'm going to take that big hunk of Venusian space junk apart."

"Anything you say, you bigmouthed squirt!" roared Astro.

"Hey—knock it off!" yelled Tom, jumping between them and grabbing Astro's arm. "If you guys don't lay off each other, you're going to be thrown out of the Academy, and I'll be thrown out with you! I'll be blasted if I'll suffer for your mistakes!"

"That's a very interesting statement, Corbett!" A deep voice purred from the doorway and the three boys whirled to see Captain Strong walk into the room, his black and gold uniform fitting snugly across the shoulders betraying their latent strength. "Stand to—all of you!"

As the boys quickly snapped to attention, Strong eyed them slowly and then moved casually around the room. He picked up a book, looked out of the window port, pushed a boot to one side and, finally, removed Tom's sweat-stained uniform from a chair and sat down. The cadets held their rigid poses, backs stiff, eyes looking straight ahead.

"Corbett?" snapped Strong.

"Yes, sir?"

"What was the meaning of that little speech I heard a moment ago?"

"I—ah—don't quite understand what you mean, sir," stumbled Tom.

"I think you do," said Strong. "I want to know what provoked you to make such a statement."

"I'd rather not answer that, sir."

"Don't get cute, Corbett!" barked Strong. "I know what's going on in this unit. Were Manning and Astro squaring off to fight?"

"Yes, sir," replied Tom slowly.

"All right. At ease all of you," said Strong. The three boys relaxed and faced the officer.

"Manning, do you want to be a successful cadet here at Space Academy?"

"Yes, sir," answered Roger.

"Then why don't you act like it?" asked Strong.

"Is there something wrong with my work, sir?" Tom recognized the smooth Manning confidence begin to appear, and he wondered if Captain Strong would be taken in.

"Everything's wrong with your work," barked Strong. "You're too smart! Know too much!" He stopped short and then added softly with biting sarcasm, "Why do you know so much, Cadet Manning?"

Roger hesitated. "I've studied very hard. Studied for years to become a Space Cadet," he replied.

"Just to be a cadet or a successful cadet *and* a Solar Guard officer?"

"To be successful at both, sir."

"Tell me, Manning, do you have any ideas on life?"

"That's a pretty general question, sir. Do you mean life as a whole or a specific part of life?" They're fencing with each other, thought Tom. He held his breath as Strong eyed the relaxed, confident cadet.

"A spaceman is supposed to have but one idea in life, Manning. And that idea is *space*!"

"I see, sir," replied Roger, as a faraway look came into his eyes.

"Yes, sir, I have some ideas about life in space."

"I'd like to hear them!" requested Strong coldly.

"Very well, sir." Roger relaxed his shoulders and leaned against the bunk. "I believe space is the last frontier of man—Earthman. It's the last place for man to conquer. It is the greatest adventure of all time and I want to be a part of that adventure."

"Thank you, Manning." Strong's voice was even colder than before. "But as it happens, I can read too. That was a direct quote from the closing paragraph of Jon Builker's book on his trip to the stars!" He paused. "Couldn't you think of anything original to say?"

Roger flushed and gritted his teeth. Tom could hardly keep himself from laughing. Captain Strong had scored heavily!

The Solar Guard officer then turned his attention to Astro.

"Astro, where in the name of the universe did you get the idea you could be an officer in the Solar Guard?"

"I can handle anything with push in it, sir!" Astro smiled his confidence.

"Know anything about hyperdrive?"

"Uhh—no, sir."

"Then you can't handle everything with, as you say, push in it!" snapped Strong.

"Er—no, sir," answered Astro, his face clouding over.

There was a long moment of silence while Strong lifted one knee, swung it over the arm of his chair, and looked steadily at the two half-naked boys in front of him. He smiled lazily.

"Well, for two Earthworms, you've certainly been acting like a couple of space aces!"

He let that soak in while he toyed with the gleaming Academy ring on his finger. He allowed it to flash in the light of the window port, then slipped it off and flipped it over to Corbett.

"Know what that is?" he asked the curly-haired cadet.

"Yes, sir," replied Tom. "Your Academy graduation ring."

"Uh-huh. Now give it to our friend from Venus." Tom gingerly handed Astro the ring.

"Try it on, Astro," invited Strong.

The big cadet tried it on all of his fingers but couldn't get it past the first

joint.

"Give it to Manning."

Roger accepted the ring and held it in the palm of his hand. He looked at it with a hard stare, then dropped it in the outstretched hand of the Solar Guard officer. Replacing it on his finger, Strong spoke casually.

"All units design their own rings. There are only three like this in the universe. One is drifting around in space on the finger of Sam Jones. Another is blasting a trail to the stars on the finger of Addy Garcia." He held up his finger. "This is the third one."

Strong got up and began to pace in front of the boys.

"Addy Garcia couldn't speak a word of English when he first came to the Academy. And for eight weeks Sam and I sweated to figure out what he was talking about. I think we spent over a hundred hours in the galley doing KP because Addy kept getting us fouled up. But that didn't bother us because we were a unit. Unit 33-V. Class of 2338."

Strong turned to face the silent cadets.

"Sam Jones was pretty much like you, Astro. Not as big, but with the same love for that power deck. He could always squeeze a few extra pounds of thrust out of those rockets. What he knew about astrogation and control, you could stick on the head of a pin. On long flights he wouldn't even come up to the control deck. He just sat in the power hole singing loud corny songs about the Arkansas mountains to those atomic motors. He was a real power-deck man. But he was a *unit* man first! The only reason I'm here to tell you about it is because he never forgot the unit. He died saving Addy and myself."

The room was still. Down the long hall, the lively chatter of other cadets could be heard as they showered and prepared for dinner. In the distance, the rumble of the slidewalks and test firing of rockets at the spaceport was dim, subdued, powerful.

"The unit is the backbone of the Academy," continued Strong. "It was set up to develop three men to handle a Solar Guard rocket cruiser. Three men who could be taught to think, feel and act as one intelligent brain. Three men who would respect each other and who could depend on each other. Tomorrow you begin your real education. You will be supervised and instructed personally.

"Many men have contributed to the knowledge that will be placed in front of you—brave, intelligent men, who blasted through the atmosphere with a piece of metal under them for a spaceship and a fire in their tail for rockets. But everything they accomplished goes to waste if the unit can't become a single personality. It must be a single personality, or it doesn't exist. The unit is the ultimate of hundreds of years of research and progress. But you have to fight to create it and keep it living. Either you want it, or you get out of the Academy!"

Captain Strong turned away momentarily and Tom and Astro looked at Roger significantly.

"Stand to!"

The three boys snapped to attention as the wide-shouldered captain addressed them again.

"Tomorrow you begin to learn how to think as a single brain. To act with combined intelligence as one person. You either make up your minds to start tomorrow or you report to Commander Walters and resign. There isn't any room here for individuals."

He stepped to the door and paused.

"One more thing. I've been given the job of making you over into spacemen. I'm your unit commander. If you're still here in the morning, I'll accept that as your answer. If you think you can't take"—he paused—"what I'm going to dish out, then you know what you can do. And if you stay, you'll *be* the best unit, or I'll break you in two in the attempt. Unit dis… missed!" And he was gone.

The three cadets stood still, not knowing quite what to do or say. Finally Tom stepped before Astro and Roger.

"Well," he said quietly, "how about it, you guys? Are you going to lay off each other now?"

Astro flushed, but Roger eyed Corbett coolly.

"Were you really taken in with that space gas, Tom?" He turned to the shower room. "If you were, then you're more childish than I thought."

"A man died to save another man's life, Roger. Sam Jones. I never knew him. But I've met Captain Strong, and I believe that he would have done the same thing for Jones."

"Very noble," commented Roger from the doorway.

"But I'll tell you this, Manning," said Tom, following him, fighting for self-control, "I wouldn't want to have to depend on you to save my life. And I wouldn't want to be faced with the situation where I would have to sacrifice mine to save yours!"

Roger turned and glared at Tom.

"The Academy regs say that the man on the control deck is the boss of the unit. But I have my private opinion of the man who has that job now!"

"What's that supposed to mean?" asked Tom.

"Just this, spaceboy. There's a gym below where I'll take you *or* your big friend on—together—or one at a time." He paused, a cold smile twisting his lips. "And that offer is good as of right now!"

Tom and Astro looked at each other.

"I'm afraid," began Astro slowly, "that you wouldn't stand much of a chance with me, Manning. So if Tom wants the chore of buttoning your lip, he's welcome to it."

"Thanks, Astro," said Tom evenly. "It'll be my pleasure."

Without another word, the three cadets walked out of the door.

CHAPTER 5

"Will this do, Manning?" asked Tom.

The three boys were in a secluded corner of the gym, a large hall on the fourteenth floor of the dormitory building. At the far end of the gym, a group of cadets had just finished a game of mercuryball and were sauntering to the showers. When the last boy had disappeared, the floor was deserted except for Tom, Roger and Astro.

"This will do fine, Corbett," said Roger.

The boxing ring had been taken down the week before to make room for drills and the physical exercises of the Earthworms, so the three boys had to improvise a ring. They dragged four large tumbling mats together, spreading them side by side to form a square close to the size of an actual ring. Astro went to one of the small lockers under the balcony and returned with two pairs of boxing gloves.

"Here," offered Astro, "put these on."

"Gloves?" asked Roger, in a voice of mock surprise. "I thought this was going to be a battle of blood."

"Any way you want it, Manning. Any way at all," said Tom.

"You're going to use gloves," growled Astro. "I don't want anybody killed." He threw a pair at each of them.

"There'll be three-minute rounds, with one minute rest," he continued. "Go off the mats and you'll be counted out. Usual rules otherwise. Any questions?"

"Clear to me, Astro," said Tom.

"Let's go," nodded Roger.

"One more thing," said Astro. "I hope Tom pins your ears back, Manning. But I'm going to see that both of you get a fair deal. So keep the punches up—and fight it out. All right—time!"

The two boys moved carefully to the center of the improvised ring, their guards up, while Astro stood off the edge of the mat and watched the sweeping second hand of his wrist chronograph.

Shuffling forward Tom pushed out a probing left and then tried to cross his right, but Manning stepped back easily, countering with a hard left to Tom's heart.

"I forgot to tell you, Corbett," he called out, "I'm considered a counterpuncher. I always—"

He was cut off with a sharp left to the face that snapped his head back, and his lips curled in a smile of condescension.

"Good—very good, Corbett."

Then with lightning speed and the grace of a cat, Roger slipped inside Tom's guard, punching hard and true. A left, a right and a left pounded into Tom's mid-section, and as he gave way momentarily Tom's face clouded over.

They circled. Tom kept leading with sharp lefts that popped in and out like a piston, always connecting and keeping Roger off balance. Roger concentrated on penetrating Tom's defense, methodically pounding his ribs and heart and trying to wear him down.

"Time!" bawled Astro.

The two boys dropped their hands and turned back to their corners. They squatted on the floor breathing slowly and easily. Astro stood in the middle of the ring, glaring at both of them in turn and shaking his head.

"Huh. I expected to see you two try to wallop each other into meteor dust! Keep fighting like that and we'll be here all night!"

"Talk to Corbett," sneered Roger. "Looks like he's afraid to mix it up!"

"You fight your way, Roger, and I'll fight mine," replied Tom, his voice cold and impersonal.

"Time!" suddenly yelled Astro and stepped back off the mat.

The two cadets jumped to their feet and met in the center of the ring again. With a bull-like rush, Roger changed tactics and began to rain punches all over Tom's body, but the curly-haired cadet stood his ground coolly, picking some off in mid-air with his gloves and sliding under the others. Then, as Roger slowed down, Tom took the offensive, popping his left into his opponent's face steadily and methodically, while keeping his right cocked for a clear opening to the chin.

Roger danced in and out, watching Tom's left as though it was a snake and trying unsuccessfully to get through his guard. But the sharp lefts kept snapping his head back and his face began to redden, not only from the sting of the blows but with the mounting fury of his frustration.

Suddenly, as Astro raised his arm to call time for the end of the round, Roger jumped forward and rained another series of harmless blows on Tom's shoulders and arms. But then, as the big Venusian called time, he stepped back and Tom dropped his guard. Instantly, Roger threw a right with all his weight behind it. It landed flush on Tom's jaw and he dropped, sprawling full length on the mats and lying still.

Smiling, Roger sauntered to his corner while Astro charged in and bent over the fallen cadet.

"None of that, Astro!" snapped Roger. "Since when does a referee take sides? Leave him alone! If he doesn't come out for the next round, you have to count him out!"

The big Venusian straightened and walked menacingly toward Roger's corner. "You hit him after I called time," he growled.

"So I have to take you on too, huh?" Roger jumped to his feet. "All right—come on, you big blast of space gas!"

"Wait, Astro… wait!"

Astro suddenly wheeled around to see Tom shaking his head weakly and trying to rise up on his elbows. He rushed back to the fallen boy's side.

Roger shouted at him angrily, "Leave him alone!"

"Ahhh—go blow your jets!" was Astro's snarling reply as he bent over Tom, who was now sitting up. "Tom, are you O.K.?"

"Yeah—yeah," he replied weakly. "But stay out of this. You're the referee. How much time left?"

"Twenty seconds," said Astro. "Roger smacked you after I called time."

"If he did, I didn't know a thing about it. I was out." Tom managed a cold smile. "Nice punch, Roger."

"Ten seconds," said Astro, stepping back off the mat.

"Thanks for the compliment, Corbett." Roger eyed the other cadet speculatively. "But are you sure you want to go on?"

"I was saved by the bell, wasn't I?"

"Yeah—sure—but if you'd rather quit—"

"Time!" cried Astro.

Tom rose to his feet—shook his head—and brought up his hands. He wasn't a moment too soon. Roger had rushed across the mat, trying to land another murderous right. Tom brought up his shoulder just in time, slipping with the punch, and at the same time, bringing up a terrific left to Roger's open mid-section. Manning let out a grunt and clinched. Tom pursued his advantage, pumping rights and lefts to the body, and he could feel the arrogant cadet weakening. Suddenly, Roger crowded in close, wrestling Tom around so that Astro was on the opposite side of the mat, then brought up his head under Tom's chin. The pop of Tom's teeth could be heard all over the great hall. Roger quickly stepped back, and back-pedaled until Astro called time.

"Thanks for teaching me that one, Roger. Learned two tricks from you today," said Tom, breathing heavily, but with the same cold smile on his face.

"That's all right, Corbett. Any time," said Manning.

"What tricks?" asked Astro. He looked suspiciously at Manning, who was doubled over, finding it hard to breath.

"Nothing I can't handle in time," said Tom, looking at Roger.

"Time!" called Astro and stepped off the mat.

The two boys got to their feet slowly. The pace was beginning to show on them and they boxed carefully.

The boys were perfectly matched, Tom constantly snapping Roger's head back with the jolting left jabs and following to the head or heart with a right cross. And Roger counterpunching, slipping hooks and body punches in under Tom's long leads. It was a savage fight. The three weeks of hard physical training had conditioned the boys perfectly.

At the end of the twelfth round, both boys showed many signs of wear. Roger's cheeks were as red as the glow of a jet blast deflector from the hundreds of lefts Tom had pumped into his face, while Tom's ribs and mid-

section were bruised and raw where Roger's punches had landed successfully.

It couldn't last much longer, thought Astro, as he called time for the beginning of the thirteenth round.

Roger quickened his pace, dancing in and out, trying to move in under Tom's lefts, but suddenly Tom caught him with a right hand that was cocked and ready. It staggered him and he fell back, covering up. Tom pressed his advantage, showering rights and lefts everywhere he could find an opening. In desperation, his knees buckling, Roger clinched tightly, quickly brought up his open glove and gouged his thumb into Tom's eyes. Tom pulled back, instinctively pawing at his eye with his right glove. Roger, spotting the opening, took immediate advantage of it, shooting a hard looping right that landed flush on Tom's jaw. Tom went down.

Unaware of Roger's tactics, Astro jumped into the ring and his arm pumped the deadly count.

"One—two—three—four—"

It was going to be tough if Roger won, Astro thought, as he counted.

"Five—six—"

Arrogant enough now, he would be impossible to live with.

"Seven—eight—"

Tom struggled up to a sitting position and stared angrily at his opponent in the far corner.

"Nine—"

With one convulsive effort, Tom regained his feet. His left eye was closed and swollen, his right bleary with fatigue. He wobbled drunkenly on his feet. But he pressed forward. This was one fight he had to win.

Roger moved in for the finish. He slammed a left into Tom's shell, trying to find an opening for the last finishing blow. But Tom remained in his shell, forearms picking off the smashes that even hurt his arms, as he waited for the strength to return to his legs and arms and his head to clear. He knew that he couldn't go another round. He wouldn't be able to see. It would have to be this round, and he had to *beat* Roger. *Not* because he wanted to, but because Roger was a member of the unit. And he had to keep the unit together.

He circled his unit-mate with care, shielding himself from the shower of rights and lefts that rained around him. He waited—waited for the one perfect opening.

"Come on! Open up and fight, Corbett," panted Roger.

Tom snapped his right in reply. He noticed that Roger moved in with a hook every time he tried to cross his right. He waited—his legs began to shake. Roger circled and Tom shot out the left again, dropped into a semicrouch and feinted with the right cross. Roger moved in, cocking his fist for the left hook and Tom was ready for him. He threw the right, threw it with every ounce of strength left in his body. Roger was caught moving in and took the blow flush on the chin. He stopped as if poleaxed. His eyes turned glassy and then he dropped to the mat. He was out cold.

Astro didn't even bother to count.

Tom squatted on the mat beside Roger and rubbed the blond head with his glove.

"Get some water, Astro," he said, gasping for breath. "I'm glad I don't have to fight this guy again. And I'll tell you something else—"

"What?" asked Astro.

"Anybody that wants to win as much as this guy does, is going to win, and I want to have him on my side!"

Astro merely grunted as he turned toward the water cooler.

"Maybe," he called back. "But he ought to read a book of rules first!"

When he came back to the mat with the water, Roger was sitting up, biting the knots of the laces on his gloves. Tom helped him, and when the soggy leather was finally discarded, he stuck out his hand. "Well, Roger, I'm ready to forget everything we've said and start all over again."

Roger looked at the extended hand for a moment, his eyes blank and expressionless. Then, with a quick movement, he slapped it away and lurched to his feet.

"Go blow your jets," he snarled, and turning his back on them, stumbled across the gym.

Tom watched him go, bewilderment and pain mirrored on his face.

"I thought sure this would work, Astro," he sighed. "I thought he'd come to his senses if—"

"Nothing'll make that space creep come to his senses," Astro broke in disgustedly. "At least, nothing short of an atomic war head! Come on. Let's get you cleaned up!"

Putting his arm around Tom's shoulder, the big Venusian led him across the floor of the deserted gym, and as they disappeared through the automatic sliding doors, a tall figure in the uniform of the Solar Guard stepped out of the shadows on the balcony above. It was Captain Strong.

He stood silently at the rail, looking down at the mats and the soggy discarded boxing gloves. Tom had won the fight, he thought, but he had lost the war. The unit was now farther apart than it had ever been.

CHAPTER 6

"Well, Steve, how's everything going?"

Captain Steve Strong didn't answer right away. He returned the salute of a Space Cadet passing on the opposite slidewalk and then faced Commander Walters who stood beside him, eyeing him quizzically.

"Things are shaping up pretty well, Commander," he replied, finally, with an air of unconcern.

"The Earthworm units buckling down to business?" Commander Walters' voice matched Strong's in nonchalance.

"Yes, I'd say so, sir. Speaking generally, of course." Strong felt the back of his neck begin to flush as Walters kept eyeing him.

"And—speaking specifically, Steve?"

"Why—ah—what do you mean, sir?"

"Let's stop fencing with each other, Steve." Walters spoke kindly but firmly. "What about Manning and Unit 42-D? Are those boys learning to work together or not? And I want facts, not hopes!"

Strong hesitated, trying to word his reply. In these weeks that had followed Tom's fight with Roger in the gym, there had been no further incidents of open warfare. Roger's attitude, once openly defiant, had now subsided into a stream of never-ending sarcasm. The sting had been taken out of his attack and he seemed satisfied merely to annoy. Astro had withdrawn into a shell, refusing to allow Roger to bother him and only an occasional rumble of anger indicated his true feelings toward his troublesome unit-mate. Tom maintained his role of peacemaker and daily, in many ways, showed his capacity for leadership by steering his unit-mates away from any storm-provoking activities.

Strong finally broke the silence. "It's difficult to answer that question with facts, Commander Walters."

"Why?" insisted Walters.

"Well, nothing's really happened," answered Steve.

"You mean, nothing since the fight in the gym?"

"Oh—" Strong flushed. "You know about that?"

Commander Walters smiled. "Black eyes and faces that looked like raw beef don't go unnoticed, Steve."

"Uhh—no, sir," was Strong's lame reply.

"What I want to know is," pursued Walters, "did the fight prove anything? Did the boys get it out of their systems and are they concentrating on

becoming a unit?"

"Right now, Commander, they're concentrating on passing their manuals. They realize that they have to work together to get through this series of tests. Why, Dr. Dale told me the other day that she's sure Tom's been giving Roger a few pointers on control-deck operation. And one night I found Manning giving Astro a lecture in compression ratios. Of course, Manning's way of talking is a way that would confuse the Venusian more than it would help him, but at least they weren't snarling at each other."

"Hmm," Walters nodded. "Sounds hopeful, but still not conclusive. After all, they have to help each other in the manuals. If one member of the unit fails, it will reflect on the marks of the other two and they might be washed out too. Even the deadliest enemies will unite to save their lives."

"Perhaps, sir," replied Strong. "But we're not dealing with deadly enemies now. These are three boys, with three distinct personalities who've been lumped together in strange surroundings. It takes time and patience to make a team that will last for years."

"You may have the patience, Steve, but the Academy hasn't the time." Commander Walters was suddenly curt. "When does Unit 42-D take its manuals?"

"This afternoon, sir," replied Strong. "I'm on my way over to the examination hall right now."

"Very well. I won't take any action yet. I'll wait for the results of the tests. Perhaps they will solve both our problems. See you later, Steve." Turning abruptly, Commander Walters stepped off the slidewalk onto the steps of the Administration Building and rapidly disappeared from view.

Left alone, Strong pondered the commander's parting statement. The implication was clear. If the unit failed to make a grade high enough to warrant the trouble it took keeping it together, it would be broken up. Or even worse, one or more of the boys would be dismissed from the Academy.

A few minutes later Strong arrived in the examination hall, a large, barren room with a small door in each of the three walls other than the one containing the entrance. Tom Corbett was waiting in the center of the hall and saluted smartly as Strong approached.

"Cadet Corbett reporting for manual examination, sir!"

"Stand easy, Corbett," replied Strong, returning the salute. "This is going to be a rough one. Are you fully prepared?"

"I believe so, sir." Tom's voice wasn't too steady.

A fleeting smile passed over Strong's lips, then he continued. "You'll take the control-deck examination first. Manning will be next on the radar bridge and Astro last on the power deck."

"They'll be here according to schedule, sir."

"Very well. Follow me."

Strong walked quickly to the small door in the left wall, Tom staying a respectful step behind. When they reached the door, the officer pressed a

button in the wall beside it and the door slid open.

"All right, Corbett. Inside." Strong nodded toward the interior of the room.

The boy stepped in quickly, then stopped in amazement. All around him was a maze of instruments and controls. And in the center, twin pilot's chairs.

"Captain Strong!" Tom was so surprised that he could hardly get the words out. "It's—it's a real control deck!"

Strong smiled. "As real as we can make it, Corbett, without allowing the building to blast off." He gestured toward the pilot's chairs. "Take your place and strap in."

"Yes, sir." His eyes still wide with wonder, Tom stepped over to the indicated chair and Strong followed him, leaning casually against the other.

He watched the young cadet nervously adjust his seat strap and put a comforting hand on his shoulder. "Nervous, Corbett?"

"Yes, sir—just a little," replied Tom.

"Don't worry," said Strong. "You should have seen the way I came into this room fifteen years ago. My cadet officer had to help me into the control pilot's seat."

Tom managed a fleeting smile.

"Now, Corbett"—Strong's voice became businesslike—"as you know, these manual tests are the last tests before actually blasting off. In the past weeks, you cadets have been subjected to every possible examination, to discover any flaw in your work that might later crop up in space. This manual operations test of the control board, like Manning's on the radar bridge and Astro's on the power deck, is designed to test you under simulated space conditions. If you pass this test, your next step is real space."

"Yes, sir."

"I warn you, it isn't easy. And if you fail, you personally will wash out, and if other members of the unit do not get a high enough mark to average out to a passing grade for all of you, you fail as a unit."

"I understand, sir," said Tom.

"All right, then we'll begin. Your crew is aboard, the air lock is closed. What is the first thing you do?"

"Adjust the air circulating system to ensure standard Earth conditions."

"How do you do that?"

"By pressing this button which will activate the servo units. They automatically keep the circulating pumps in operation, based on thermostatic readings from the main gauge." Tom pointed to a black clock face, with a luminous white hand and numbers.

"All right, carry on," said Strong.

Tom reached over the huge control board that extended around him for some two feet on three sides. He placed a nervous finger on a small button, waited for the gauge below to register with a swing of the hand, and then released it. "All pressures steady, sir."

"What next?"

"Check the crew, sir—all departments—" replied Tom.

"Carry on," said Strong.

Tom reached out and pulled a microphone toward him.

"All hands! Station check!" said Tom, and then was startled to hear a metallic voice answer him.

"Power deck, ready for blast-off!" And then another voice: "Radar deck, ready for blast-off!"

Tom leaned back in the pilot's seat and turned to the captain. "All stations ready, sir."

"Good! What next?" asked Strong.

"Ask spaceport tower for blast-off clearance—"

Strong nodded. Tom turned back to the microphone, and without looking, punched a button in front of him.

"Rocket cruiser—" He paused and turned back to Strong. "What name do I give, sir?"

Strong smiled. "*Noah's Ark*—"

"Rocket cruiser *Noah's Ark* to spaceport control! Request blast-off clearance and orbit."

Once again a thin metallic voice answered him and gave the necessary instructions.

On and on, through every possible command, condition or decision that would be placed in front of him, Tom guided his imaginary ship on its imaginary flight through space. For two hours he pushed buttons, snapped switches and jockeyed controls. He gave orders and received them from the thin metallic voices. They answered him with such accuracy, and sometimes with seeming hesitation, that Tom found it difficult to believe that they were only electronically controlled recording devices. Once, when supposedly blasting through space at three-quarters space speed, he received a warning from the radar bridge of an approaching asteroid. He asked for a course change, but in reply received only static. Believing the recording to have broken down, he turned inquiringly to Captain Strong, but received only a blank stare in return. Tom hesitated for a split second, then turned back to the controls. He quickly flipped the teleceiver button on and began plotting the course of the approaching asteroid, ignoring for the moment his other duties on the control deck. When he had finished, he gave the course shift to the power deck and ordered a blast on the starboard jet. He waited for the course change, saw it register on the gauges in front of him, then continued his work.

Strong suddenly leaned over and clapped him on the back enthusiastically.

"Good work, Corbett. That broken recording was put there intentionally to trap you. Not one cadet in twenty would have had the presence of mind you showed in plotting the course of that asteroid yourself."

"Thank you, sir," stammered Tom.

"That's all—the test is over. Return to your quarters." He came over and laid a hand on Tom's shoulder. "And don't worry, Corbett. While it isn't

customary to tell a cadet, I think you deserve it. You've passed with a perfect score!"

"I have, sir? You mean—*I really passed?*"

"Next step is Manning," said Strong. "You've done as much as one cadet can do."

"Thank you, sir"—Tom could only repeat it over and over—"thank you, sir—thank you."

Dazed, he saluted his superior and turned to the door. Two hours in the pilot's chair had made him dizzy. But he was happy.

Five minutes later he slammed back the sliding door and entered the quarters of 42-D with a lusty shout.

"Meet Space Cadet Corbett—an Earthworm who's just passed his control-deck manual operations exam!"

Astro looked up from a book of tables on astrogation and gave Tom a wan smile.

"Congratulations, Tom," he said, and turned back to his book, adding bitterly, "but if I don't get these tables down by this afternoon for my power-deck manual, you're sunk."

"Say—what's going on here?" asked Tom. "Where's Roger? Didn't he help you with them?"

"He left. Said he had to see someone before taking his radar-bridge manual. He helped me a little. But when I'd ask him a question, he'd just rattle the answer off so fast—well, I just couldn't follow him."

Suddenly slamming the book shut, he got up. "Me and these tables"—he indicated the book—"just don't mix!"

"What's the trouble?"

"Ah—I can get the easy ones about astrogation. They're simple. But it's the ones where I have to *combine* it with the power deck."

"Well—I mean—what specifically?" asked Tom softly.

"For instance, I've got to find the ratio for compression on the main firing tubes, using a given amount of fuel, heading for a given destination, and taking a given time for the passage."

"But that's control-deck operations—as well as astrogation and power!" exclaimed Tom.

"Yeah—I know," answered Astro, "but I've still got to be able to do it. If anything happened to you two guys and I didn't know how to get you home, then what?"

Tom hesitated. Astro was right. Each member of the unit had to depend on the other in any emergency. And if one of them failed…? Tom saw why the ground manuals were so important now.

"Look," offered Tom. "Suppose we go over the whole thing again together. Maybe you're fouled up on the basic concept."

Tom grabbed a chair, hitched it close to the desk and pulled Astro down beside him. He opened the book and began studying the problem.

"Now look—you have twenty-two tons of fuel—and considering the position of your ship in space—"

As the two boys, their shoulders hunched over the table, began reviewing the table of ratios, across the quadrangle in the examination hall Roger Manning stood in a replica of a rocket ship's radar bridge and faced Captain Strong.

"Cadet Manning reporting for manual examination, sir." Roger brought up his arm in a crisp salute to Captain Strong, who returned it casually.

"Stand easy, Manning," replied Strong. "Do you recognize this room?"

"Yes, sir. It's a mock-up of a radar bridge."

"A workable mock-up, cadet!" Strong was vaguely irritated by Roger's nonchalance in accepting a situation that Tom had marveled at. "You will take your manuals here!"

"Yes, sir."

"On these tests you will be timed for both efficiency and speed and you'll use all the tables, charts and astrogation equipment that you'd find in a spaceship. Your problems are purely mathematical. There are no decisions to make. Just use your head."

Strong handed Roger several sheets of paper containing written problems. Roger shuffled them around in his fingers, giving each a quick glance.

"You may begin any time you are ready, Manning," said Strong.

"I'm ready now, sir," replied Roger calmly. He turned to the swivel chair located between the huge communications board, the adjustable chart table and the astrogation prism. Directly in front of him was the huge radar scanner, and to one side and overhead was a tube mounted on a swivel joint that looked like a small telescope, but which was actually an astrogation prism for taking sights on the celestial bodies in space.

Roger concentrated on the first problem.

"… you are now in the northwest quadrant of Mars, chart M, area twenty-eight. You have been notified by the control deck that it has been necessary to jettison three quarters of your fuel supply. For the last five hundred and seventy-nine seconds you have been blasting at one-quarter space speed. The four main drive rockets were cut out at thirty-second intervals. Making adjustment for degree of slip on each successive rocket cutout, find present position by using cross-fix with Regulus as your starboard fix, Alpha Centauri as your port fix."

Suddenly a bell began to ring in front of Roger. Without hesitation he adjusted a dial that brought the radar scanner into focus. When the screen remained blank, he made a second adjustment, and then a third and fourth, until the bright white flash of a meteor was seen on the scanner. He quickly grabbed two knobs, one in each hand, and twisted them to move two thin, plotting lines, one horizontal and one vertical, across the surface of the scanner. Setting the vertical line, he fingered a tabulating machine with his right hand, as he adjusted the second line with his left, thus cross-fixing the

meteor. Then he turned his whole attention to the tabulator, ripped off the answer with lightning moves of his fingers and began talking rapidly into the microphone.

"Radar bridge to control deck! Alien body bearing zero-one-five, one-point-seven degrees over plane of the ecliptic. On intersecting orbit. Change course two degrees, hold for fifteen seconds, then resume original heading. Will compensate for change nearer destination!"

Roger watched the scanner a moment longer. When the rumbling blast of the steering jets sounded in the chamber and the meteor flash shifted on the scanner screen, he returned to the problem in his hand.

Seven minutes later he turned to Strong and handed him the answer.

"Present position by dead reckoning is northwest quadrant of Mars, chart O, area thirty-nine, sir," he announced confidently.

Strong tried to mask his surprise, but a lifted eyebrow gave him away. "And how did you arrive at this conclusion, Manning?"

"I was unable to get a sight on Alpha Centauri due to the present position of Jupiter, sir," replied Roger easily. "So I took a fix on Earth, allowed for its rotational speed around the sun and took the cross-fix with Regulus as ordered in the problem. Of course, I included all the other factors of the speed and heading of our ship. That was routine."

Strong accepted the answer with a curt nod, motioning for Roger to continue. It would not do, thought Strong, to let Manning know that he was the first cadet in thirty-nine years to make the correct selection of Earth in working up the fix with Regulus, and still have the presence of mind to plot a meteor without so much as a half-degree error. Of course the problem varied with each cadet, but it remained essentially the same.

"Seven-and-a-half minutes. Commander Walters will be surprised, to say the least," thought Steve.

Forty-five minutes later, Roger, as unruffled as if he had been sitting listening to a lecture from a sound slide, handed in the rest of his papers, executed a sharp salute and walked out.

"Two down and one to go," thought Strong, and the toughest one of them all coming up. Astro. The big Venusian was unable to understand anything that couldn't be turned with a wrench. The only thing that would prevent Unit 42-D from taking Academy unit honors over Unit 77-K, the unit assigned to Lieutenant Wolcheck, would be Astro. While none of the members of the other units could come up to the individual brilliance of Corbett or Manning, they worked together as a unit, helping one another. They might make a higher unit rating, simply because they were better balanced.

He shrugged his shoulders and collected the papers. It was as much torture for him, as it was for any cadet, he thought, and turned to the door. "All right, Astro," he said to himself, "in ten minutes it'll be your turn and I'm going to make it tough!"

Back in the quarters of Unit 42-D, Tom and Astro still pored over the books and papers on the desk.

"Let's try again, Astro," sighed Tom as he hitched his chair closer to the desk. "You've got thirty tons of fuel—you want to find the compression ratio of the number-one firing-tube chamber—so what do you do?"

"Start up the auxiliary, burn a little of the stuff and judge what it'll be," the big cadet replied. "That's the way I did it on the space freighters."

"But you're not on a space freighter now!" exclaimed Tom. "You've got to

do things the way they want it done here at the Academy. By the book! These tables have been figured out by great minds to help you, and you just want to burn a little of the stuff and guess at what it'll be!" Tom threw up his hands in disgust.

"Seems to me I heard of an old saying back in the teen centuries about leading a horse to water, but not being able to make him drink!" drawled Roger from the doorway. He strolled in and kicked at the crumpled sheets of paper that littered the floor, stark evidence of Tom's efforts with Astro.

"All right, wise guy," said Tom, "suppose you explain it to him!"

"No can do," replied Roger. "I tried. I explained it to him twenty times this morning while you were taking your control-deck manual." He tapped his head delicately with his forefinger. "Can't get through—too thick!"

Astro turned to the window to hide the mist in his eyes.

"Lay off, Roger," snapped Tom. He got up and walked over to the big cadet. "Come on, Astro, we haven't got much time. You're due in the examination hall in a few minutes."

"It's no good, Tom, I just can't understand that stuff." Astro turned and faced his unit-mates, his voice charged with sudden emotion. "Just fifteen minutes on the power deck of anything with rockets in her and I'll run her from here to the next galaxy. I—I can't explain it, but when I look at those motors, I can read 'em like you read an astrogation chart, Roger, or you the gauges on the control deck, Tom. But I just can't get those ratios out of a book. I gotta put my hands on those motors—touch 'em—I mean really *touch 'em*—then I know what to do!"

As suddenly as he had started, he stopped and turned, leaving Tom and Roger staring at him, startled by this unusual outburst.

"Cadets—stand *to*!" roared a voice from the doorway.

The three cadets snapped to attention and faced the entrance.

"Take it easy, Earthworms!" said Tony Richards. A tall cadet with closely cut black hair and a lazy, smiling face stood in the doorway.

"Lay off, Richards," said Tom. "We haven't time for gags now. Astro's going to take his power-deck manual in a few minutes and we're cramming with him."

"O.K.—O.K.—don't blow your jets," said Richards. "I just wanted to see if there were any bets on which unit would cop honors in the manuals this afternoon."

"I suppose you think your Unit 77-K will finish on top?" drawled Roger.

"I'd like to bet all the galley demerits we have in 77-K against yours."

"With Astro on our team?" complained Roger.

"What's the matter with Astro?" asked Richards. "From what I hear, he's hot stuff!" It wasn't a compliment, but a sharp dig made with a sly smile. Astro balled his huge hands into fists.

"Astro," said Roger, "is the type that can smell out trouble on any power deck. But today he came down with a cold. No, I'm afraid it's no bet,

Richards."

"I'll give you two to one," Richards offered.

"Nothing doing," replied Roger. "Not even at five to one. Not with Astro."

Richards grinned, nodded and disappeared.

Roger turned to face the hard stare of Tom.

"That was the dirtiest sellout I've ever heard, Manning," Tom growled.

"Sorry, Corbett," said Roger. "I only bet on sure things."

"That's O.K. with me, Manning," said Astro, "but I'm afraid you sold yourself a hot rocket, because I'm going to pass!"

"Who are you kidding?" Roger laughed and sprawled on his bunk.

Astro took a quick step forward, his fists clenched, his face a mask of burning anger, but Tom quickly jumped in front of him.

"You'll be late for the exam, Astro!" he shouted. "Get going or it'll count against your mark!"

"Huh. What's a few points more or less when you're going to fail anyway," snorted Roger from the bunk.

Again, Astro started to lunge forward and Tom braced himself against the Venusian's charge, but suddenly the burly cadet stopped. Disengaging Tom's restraining arms, he spoke coldly to the sneering boy on the bed.

"I'm going to pass the exam, Manning. Get that? I'm going to pass and then come back and beat your head off!" Turning on his heel, he stalked out of the room.

Tom immediately wheeled to face Roger, fire in his eyes, and the arrogant cadet, sensing trouble, jumped to his feet to meet him.

"What's the idea of giving Astro a hard time?" demanded Tom.

"Cool off, Corbett," replied Roger warily. "You're fusing your tubes you're so hot."

"You bet I'm hot! Hot enough to blast you—again!" Tom deliberately spat out the last word.

Roger flushed and brought his fists up quickly as though to charge in, then suddenly dropped them again. He turned to the door and slowly walked out.

"Go blow your jets," his voice drifted back to Tom as he disappeared.

Tom stood there, looking at the empty door, almost blind with rage and frustration. He was failing in the main job assigned to him, that of keeping the unit on an even keel and working together. How could he command a crew out in space if he couldn't keep the friction of his own unit under control?

Slowly, he left the room to wait for Astro in the recreation hall where the results of the manuals would be announced. He thought of Astro, now probably deep in his exam, and wondered how bad it would be for him. Then another thought crossed his mind. Roger had said nothing of his own test and neither he nor Astro had even inquired.

He shook his head. No matter where the unit placed in the manuals, it just couldn't stay together.

CHAPTER 7

It was customary for all Earthworm cadets to gather in the main recreation hall to wait for the results of the manuals which would be announced on the huge teleceiver screen. Since all the units were taking their tests that afternoon, the hall was crowded with green-clad cadets, talking in low murmurs and waiting tensely for the outcome of the exam.

Tom entered the huge room, looked around and then drifted toward Al Dixon, the senior cadet who had greeted them as a unit after passing classification tests. The blue-clad cadet was listening to a story spool, a device that told a story, rather than let the person read it from a book.

"Hiya, Corbett," said Dixon, smiling. "Drag up a chair. Listening to a terrific yarn about a guy stranded on an asteroid and then he finds—" The redheaded cadet's voice trailed off when he noticed that Tom wasn't listening.

"Say, what's the matter with you? You look like you just lost your best friend."

"Not yet, but it won't be long now," commented Tom, a trace of bitterness creeping into his voice. "Astro's taking his power-deck manual. What he knows about those compression ratios just isn't known. But he just can't get it on paper."

"Don't sell your unit-mate short," said Dixon, sensing something beneath Tom's comment. "I've heard that big fellow knows more about a rocket deck than McKenny."

"Yeah, that's true," said Tom, "but—"

"You know, Corbett," said Dixon, switching off the story spool, "there's something screwy in that outfit of yours."

"You can say that again," agreed Tom bitterly.

"You come in here with a face dragging on the floor, and Manning—"

Tom's head jerked up. "Manning! What about that space-gassing hot-shot?"

"—Manning just tore through the rec hall trying to get some of the other Earthworm units to bet their galley demerits against your outfit."

Tom's mouth sagged open. "You mean, he actually wanted to bet that Astro would pass?"

"Not just pass, Corbett, but he wanted to bet that your unit would be top rocket of the Earthworms! The head of the list!"

"But he told Astro that—" he stopped.

"Told him what?" Dixon asked.

"Ah—nothing—nothing—" said Tom. He jumped up and headed for the door.

"Hey, where are you going?"

"To find Manning. There are a couple of things I want to clear up."

Tom left Dixon shaking his head in bewilderment and jumped on the slidestairs. He was going to have it out with Roger once and for all. Hopping off the slidestairs onto the forty-second floor, he started down the long hall to his quarters.

Nearing the door, he heard Roger's laugh, and then his lazy voice talking to someone inside.

"Sure, they're dumb, but they're not bad guys," said Roger.

Tom walked into the room. Roger was sitting on the side of his bunk facing Tony Richards.

"Hiya, Corbett," said Roger, "did you hear how Astro made out yet?"

Tom ignored the question.

"I want to talk to you, Roger."

Roger eyed him suspiciously. "Sure, Corbett, go ahead."

"Well, I'll be going along," said Richards. He had heard about the previous fight between Manning and Corbett and didn't want to be hauled up as a witness later if they started again. "Remember, Manning," he called from the doorway, "the bet is two to one, and are you going to get tired of washing pots and pans!" He waved his hand at Corbett and disappeared.

"All right, Corbett," Roger turned to Tom. "What's frying you?"

"I just saw Al Dixon down in the rec hall," answered Tom. "He told me you were looking for bets on the unit ratings. Is that why Richards was here?"

"That's right," nodded Roger.

"What made you say the things you did to Astro before he went for his manual?"

"Very simple. I wanted to make him pass and that was the only way."

"You're pretty sure of yourself, Roger."

"I'm always sure of myself, Corbett. And the sooner you learn that, the easier it'll be for all of us. I never bet unless it's in the bag. I know Astro's going to pass. Some guys have to have a fire built under them before they get moving. Astro's one of them."

"That doesn't answer my question," said Tom. "Why did you say the things you did before a guy goes to take an exam?"

"I said what I did to make Tony Richards give me odds. *And* to make Astro mad enough to pass. We're a cinch to win and Richards' outfit will be indebted to us for a year's worth of galley demerits." He smiled easily. "Smooth, huh?"

"I think it's rotten," said Tom. "Astro left here feeling like a plugged credit! And if he does fail, it'll be because you made him think he was the dumbest guy in the universe!"

"He probably is," mused Roger, "but he still won't fail that manual."

From the hallway behind them, a loud blasting yell was suddenly heard, echoing from somewhere on the lower floors. Tom and Roger waited, their eyes wide and hopeful. There was only one person at Space Academy capable of making such a noise.

"He made it!" Tom exclaimed.

"Of course he made it," said Roger casually.

Astro tore into 42-D with a mad rush.

"Yeeeooooooowwww!" He grabbed the two cadets and picked them up, one in each hand. "I made it—hands down—I handled those rocket motors like they were babes in arms! I told you that all I had to do was touch them and I'd know! I told you!"

"Congratulations, Astro," said Tom with a wide grin. "I knew you'd do it."

"Put me down, you oversized Venusian jerk," said Roger, almost good-naturedly. Astro released the smaller cadet and faced him.

"Well, hot-shot, I promised you something when I got back, didn't I?"

"Make it later, will you, and I'll be glad to oblige." He walked toward the door. "I've got to go down and collect a bet."

"What bet?" asked Astro.

"With Tony Richards."

"But I thought you were afraid to bet on me!"

"Not at all, Astro. I just wanted to make you mad enough to ensure my winning."

"That sounds like you were more worried about your bet than you were about Astro passing," snapped Tom.

"You're exactly right, spaceboy," purred Roger, standing in the doorway.

"That's our boy, Manning," growled Astro. "The great team man!"

"Team?" Roger took a step back into the room. "Don't make me laugh, Astro. For your information, tomorrow morning I'm putting in for a transfer to another unit!"

"What!" exclaimed Tom. "You can't trans—"

"Yes, I can," interrupted Roger. "Read your Academy regs. Anyone can request a transfer once the unit has passed its manuals."

"And what excuse are you going to use," snapped Astro bitterly. "That you can't take it?"

"A personality difference, Astro, my boy. You hate me and I hate you. It's a good enough reason, I think."

"It's just as well, hot-shot," replied Astro. "Because if you don't transfer, we will!"

Roger merely smiled, flipped his fingers to his forehead in an arrogant gesture of farewell and turned to leave again. But his path was blocked by the sudden appearance of Captain Steve Strong. The three cadets quickly braced.

The Solar Guard officer strode into the room, his face beaming. He looked at each of the boys, pride shining out of his eyes, and then brought his hand up and held it in salute.

"I just want to tell you boys one thing," he said solemnly. "It's the highest compliment I can pay you, or anyone." He paused. "All three of you are real spacemen!"

Tom and Astro couldn't repress smiles, but Roger's expression never

changed.

"Then we passed as a unit, sir?" asked Tom eagerly.

"Not only passed, Corbett"—Strong's voice boomed in the small room —"but with honors. You're the top rockets of this Earthworm group! I'm proud to be your commanding officer!"

Again Tom and Astro fought back smiles of happiness and even Roger managed a small grin.

"This is the fightingest group of cadets I've ever seen," Strong continued. "Frankly, I was a little worried about your ability to pull together but the results of the manuals showed that you have. You couldn't have made it without working as a unit."

Strong failed to notice Roger's face darken, and Tom and Astro look at each other meaningfully.

"My congratulations for having solved that problem too!" Strong saluted them again and walked toward the door, where he paused. "By the way, I want you to report to the Academy spaceport tomorrow at eight hundred hours. Warrant Officer McKenny has something out there he wants to show you."

Tom's eyes bugged out and he stepped forward.

"Sir," he gasped, scarcely able to get the question past his lips, "you don't mean we're—we're going to—"

"You're absolutely right, Corbett. There's a brand-new rocket cruiser out there. Your ship. Your future classroom. You'll report to her in the blues of the Space Cadets! And from now on your unit identification is the name of your ship! The rocket cruiser *Polaris*!"

A second later, Strong had vanished down the corridor, leaving Tom and Astro hugging each other and clapping each other on the back in delirious joy.

Roger merely stood to one side, a sarcastic smile on his face.

"And now, as we prepare to face the unknown dangers of space," he said bitingly, "let us unite our voices and sing the Academy hymn together! Huh!" He strode toward the door. "Don't they ever get tired of waving that flag around here?"

Before Tom and Astro could reply, he had disappeared. The big Venusian shrugged his shoulders. "I just don't understand that guy!"

But Tom failed to reply. He had turned toward the window and was staring out past the gleaming white Tower of Galileo into the slowly darkening skies of evening to the east. For the moment, the problems of Roger Manning and the unit were far away. He was thinking of the coming morning when he would dress in the blues of a Space Cadet for the first time and step into his own ship as command pilot. He was thinking of the morning when he would be a real spaceman!

CHAPTER 8

The campus of Space Academy was quiet that evening. Only a few cadets were still out on the quadrangle, lounging around in the open before returning to their quarters for bed-check.

On the forty-second floor of the dormitory building, two thirds of the newly formed *Polaris* unit, Tom and Astro, were in heated argument.

"All right, all right, so the guy is brilliant," said Astro. "But who can live with him? Not even himself!"

"Maybe he is a little difficult," replied Tom, "but somehow, we've got to adjust to him!"

"How about him adjusting to us? It's two against one!" Astro shambled to the window and looked out moodily. "Besides, he's putting in for a transfer and there's nothing we can do about it!"

"Maybe he won't now—not after that little speech Captain Strong made this afternoon."

"If he doesn't, then, blast it, I will!"

"Aw, now take it easy, Astro!"

"Take it easy, nothing!" Astro was building up a big head of steam. "Where is that space crawler right now?"

"I don't know. He never came back. Wasn't even down at mess tonight."

"There, that's just what I mean!" Astro turned to Tom to press his point. "It's close to bed-check and he isn't in quarters yet. If the MP's catch him outside after hours, the whole unit will be logged and there goes our chance of blasting off tomorrow!"

"But there's still time, Astro," replied Tom lamely.

"Not much there isn't. It just shows you what he thinks of the unit! He just doesn't care!" Astro paced the floor angrily. "There's only one thing to do! He gets his transfer—or we do! Or—" he paused and looked at Tom meaningfully, "or I do."

"You're not thinking, Astro," argued Tom. "How will that look on your record? Every time there's a trip into deep space, they yank out your file to see how you operate under pressure with other guys. When they see that you asked for a transfer from your unit, that's it!"

"Yeah—yeah—I know—incompatible—but honest, Tom—"

The curly-haired cadet felt his big friend weaken and he pressed his advantage.

"It isn't every day that a unit gets a ship right after finishing ground

manuals. Captain Strong said he waited for four months after manuals before getting his first hop into space."

"Yeah—but what do you think it's going to be like out in space with Manning making sour cracks all the time?"

Tom hesitated before answering his Venusian friend. He was fully aware that Roger was going to play a lone hand. And that they would never really have unity among them until some drastic measure was taken. After all, Tom thought, some guys don't have good hearts, or eyes, a defect to prevent them from becoming spacemen. Roger is just mixed up inside. And the handicap is just as real as if he had a physical flaw.

"Well, what do you want to do?" asked Tom finally.

"Go see Captain Strong. Give it to him straight. Tell him we want a transfer."

"But tomorrow we blast off. We might not have another chance for months! Certainly not until we get a new astrogator."

"I'd rather wait and have a guy on the radar bridge I know isn't going to pull something behind my back," said Astro, "than blast off tomorrow with Manning aboard."

Again Tom hesitated. He knew what Astro was saying was the truth. Life, so far, at the Academy had been tough enough, but with mutual dependence and security even more important out in space, the danger of their constant friction was obvious.

"O.K.," he relented, "if that's the way you really want it. Come on. We'll go see Captain Strong now."

"You go," said Astro. "You know how I feel. Whatever you say goes for me too."

"Are you sure you want to do it?" asked Tom. He knew what such a request would mean. A black mark against Roger for being rejected by his unit-mates and a black mark against Astro and himself for not being able to adjust. Regardless of who was right and who was wrong, there would always be a mark on their records.

"Look, Tom," said Astro, "if I thought it was only me I'd keep my mouth shut. But you'd let Manning get away with murder because you wouldn't want to be the one to get him into trouble."

"No, I wouldn't," said Tom. "I think Roger would make a fine spaceman; he's certainly smart enough, and a good unit-mate if he'd only snap out of it. But I can't let him or anyone else stop me from becoming a spaceman or a member of the Solar Guard."

"Then you'll go see Captain Strong?"

"Yes," said Tom. If he had been in doubt before, now that he had made the decision, he felt relieved. He slipped on his space boots and stood up. The two boys looked at each other, each realizing the question in the other's mind.

"No!" said Tom decisively. "It's better for everyone. Even Roger. He might find two other guys that will fit him better." He walked from the room.

The halls were silent as he strode toward the slidestairs that would take him to the nineteenth floor and Captain Strong's quarters. Passing one room after another, he glanced in and saw other units studying, preparing for bed, or just sitting around talking. There weren't many units left. The tests had taken a toll of the Earthworms. But those that remained were solidly built. Already friendships had taken deep root. Tom found himself wishing he had become a member of another unit. Where the comradeship was taken for granted in other units, he was about to make a request to dissolve his because of friction.

Completely discouraged, Tom stepped on the slidestairs and started down.

As he left the dormitory floors, the noise of young cadet life was soon lost and he passed floors containing offices and apartments of the administration staff of the Solar Guard.

As he drew level with the floor that was Galaxy Hall, he glanced at the lighted plaque and for the hundredth time reread the inscription—

"… to the brave men who sacrificed their lives in the conquest of space, this Galaxy Hall is dedicated…"

Something moved in the darkness of the hall. Tom strained his eyes for a closer look and just managed to distinguish the figure of a cadet standing before the wreckage of the *Space Queen*. Funny, thought Tom. Why should anyone be wandering around the hall at this time of night? And then, as the floor slipped past, the figure turned slightly and was illuminated by the dim light that came from the slidestairs. Tom recognized the sharp features and close-cropped blond hair of Roger Manning!

Roger was still standing in front of the Space Queen!

Quickly changing over to the slidestairs going up, Tom slipped back to the hall floor and stepped off. Roger was still standing in front of the *Space Queen*!

Tom started to speak, but stopped when he saw Roger take out a handkerchief and dab at his eyes.

The movements of the other boy were crystal-clear to Tom. Roger was crying! Standing in front of the *Space Queen* and crying!

He kept watching as Roger put away the handkerchief, saluted sharply and turned toward the slidestairs. Ducking behind a glass case that held the first space suit ever used, Tom held his breath as Roger passed him. He could hear

Roger mumble.

"They got you—but they won't get me with any of that glory stuff!"

Tom waited, heart racing, trying to figure out what Roger meant, and why he was here alone in Galaxy Hall. Finally the blond cadet disappeared up the moving stair.

Tom didn't go to see Captain Strong. Instead, he returned to his room.

"So quick?" asked Astro.

Tom shook his head. "Where's Roger?" he asked.

"In the shower." Astro gestured to the bathroom, where Tom could hear the sound of running water. "What made you change your mind about seeing Captain Strong?" asked Astro.

"I think we've misjudged Roger, Astro," said Tom slowly. And then related what he had seen and heard.

"Well, blast my jets!" exclaimed Astro, when Tom had finished. "What's behind it, do you think?"

"I don't know, Astro. But I'm convinced that any guy that'll visit Galaxy Hall by himself late at night—and *cry*—well, he couldn't be entirely off base, regardless of what he does."

Astro studied his work-hardened palms.

"You wanta keep it this way for a while?" he asked. "I mean, forget about talking to Captain Strong?"

"Roger's the best astrogator and radar man in the Academy, Astro. There's something bothering him. But I'm willing to bet that whatever it is, Roger will work it out. And if we're really unit-mates, then we won't sell him out now, when he may need us most."

"That's it, then," said Astro. "I'll kill him with kindness. Come on. Let's turn in. We've got a big day ahead of us tomorrow!"

The two boys began to prepare for bed. Roger came out of the shower wearing pajamas.

"All excited, spacemen?" he drawled, leaning against the wall, brushing his short hair.

"About as excited as we can get, Roger," smiled Tom.

"Yeah, you space-blasting jerk!" growled Astro good-naturedly. "Turn out the lights before I introduce you to my space boot."

Roger eyed the two cadets quizzically, puzzled by the strange good humor of both boys. He shrugged his shoulders, flipped out the light and crawled into bed.

But if he could have seen the satisfied smile of Tom Corbett, Roger would have been even more puzzled.

"We'll just kill him with kindness," thought Tom, and fell fast asleep.

CHAPTER 9

The three members of the *Polaris* unit stepped off the slidewalk at the Academy spaceport and stood before Warrant Officer McKenny.

"There she is," said the stubby spaceman, pointing to the gleaming spaceship resting not two hundred feet away. "Rocket cruiser *Polaris*. The newest and fastest ship in space."

He faced the three boys with a smile. "And she's all yours. You earned her!"

Mouths open, Tom, Roger and Astro stood gaping in fascination at the mighty spaceship resting on the concrete ramp. Her long two-hundred-foot polished beryllium steel hull mirrored the spaceport scene around them. The tall buildings of the Academy, the "ready" line of space destroyers and scouts, and the hundreds of maintenance noncoms of the enlisted Solar Guard, their scarlet uniforms spotted with grime, were all reflected back to the *Polaris* unit as they eyed the sleek ship from the needlelike nose of her bow to the stubby opening of her rocket exhausts. Not a seam or rivet could be seen in her hull. At the top of the ship, near her nose, a large blister made of six-inch clear crystal indicated the radar bridge. Twelve feet below it, six round window ports showed the position of the control deck. Surrounding the base of the ship was an aluminum scaffold with a ladder over a hundred feet high anchored to it. The top rung of the ladder just reached the power-deck emergency hatch which was swung open, like a giant plug, revealing the thickness of the hull, nearly a foot.

"Well," roared the red-clad spaceman, "don't you want to climb aboard and see what your ship looks like inside?"

"Do we!" cried Tom, and made a headlong dash for the scaffold. Astro let out one of his famous yells and followed right at his heels. Roger watched them running ahead and started off at a slow walk, but suddenly, no longer able to resist, he broke into a dead run. Those around the *Polaris* stopped their work to watch the three cadets scramble up the ladder. Most of the ground crew were ex-spacemen like McKenny, no longer able to blast off because of acceleration reaction. And they smiled knowingly, remembering their reactions to their first spaceship.

Inside the massive cruiser, the boys roamed over every deck, examining the ship excitedly.

"Say look at this!" cried Tom. He stood in front of the control board and ran his hands over the buttons and switches. "This board makes the manual we

worked on at the Academy look like it's ready for Galaxy Hall!"

"Yeeeooooooww!" Three decks below, Astro had discovered the rocket motors. Four of the most powerful ever installed on a spaceship, enabling the *Polaris* to outrace any ship in space.

Roger stuck his head through the radar-bridge hatch and gazed in awe at the array of electronic communicators, detection radar and astrogation gear. With lips pulled into a thin line, he mumbled to himself: "Too bad they didn't give *you* this kind of equipment."

"What'd you say, Roger?" asked Astro, climbing alongside to peer into the radar bridge.

Startled, Roger turned and stammered, "Ah—nothing—nothing."

Looking around, Astro commented, "This place looks almost as good as that power deck."

"Of course," said Roger, "they could have placed that astrogation prism a little closer to the chart table. Now I'll have to get up every time I want to take sights on stars!"

"Don't you ever get tired of complaining?" asked Astro.

"Ah—rocket off," snarled Roger.

"Hey, you guys," yelled Tom from below, "better get down here! Captain Strong's coming aboard."

Climbing back down the ladder to the control deck, Astro leaned over his shoulder and asked Roger, "Do you really think he'll let us take this baby up for a hop, Manning?"

"Get your head out of that cloud, Astro. You'll pull about three weeks of dry runs before this baby gets five inches off the ground."

"I wouldn't be too sure of that, Manning!" Strong's voice boomed out as he climbed up through the control-deck hatch. The three boys immediately snapped to attention.

Strong walked around the control deck, fingering the controls lightly.

"This is a fine ship," he mused aloud. "One of the finest that scientific brains can build. She's yours. The day you graduate from the Academy, *IF* you graduate, and I can think of about a thousand reasons why you won't, you'll command an armed rocket cruiser similar to this. As a matter of fact, the only difference between this ship and those that patrol the space lanes now is in the armament."

"Don't we have any arms aboard at all, sir?" asked Tom.

"Small arms, like paralo-ray pistols and paralo-ray rifles. Plus four atomic war heads for emergency use," replied Strong.

Seeing a puzzled expression cross Astro's face, the Solar Guard officer continued, "You haven't studied armament yet, Astro, but paralo rays are the only weapons used by law-enforcement agencies in the Solar Alliance. They work on a principle of controlled energy, sending out a ray with an effective range of fifty yards that can paralyze the nervous system of any beast or human."

"And it doesn't kill, sir?" inquired Astro.

"No, Astro." replied Strong. "Paralyzing a man is just as effective as killing him. The Solar Alliance doesn't believe you have to kill anyone, not even the most vicious criminal. Freeze him and capture him, and you still have the opportunity of making him a useful citizen."

"But if you can't?" inquired Roger dryly.

"Then he's kept on the prison asteroid where he can't harm anyone." Strong turned away abruptly. "But this isn't the time for a general discussion. We've got work to do!"

He walked over to the master control panel and switched the teleceiver screen. There was a slight buzz, and a view of the spaceport outside the ship suddenly came into focus, filling the screen. Strong flipped a switch and a view aft on the *Polaris* filled the glowing square. The aluminum scaffolding was being hauled away by a jet truck. Again the view changed as Strong twisted the dials in front of him.

"Just scanning the outside, boys," he commented. "Have to make sure there isn't anyone near the ship when we blast off. The rocket exhaust is powerful enough to blow a man two hundred feet, to say nothing of burning him to death."

"You mean, sir—" began Tom, not daring to hope.

"Of course, Corbett," smiled Strong. "Take your stations for blast-off. We raise ship as soon as we get orbital clearance from spaceport control!"

Without waiting for further orders, the three boys scurried to their stations.

Soon the muffled whine of the energizing pumps on the power deck began to ring through the ship, along with the steady beep of the radar scanner on the radar bridge. Tom checked the maze of gauges and dials on the control board. Air locks, hatches, oxygen supply, circulating system, circuits, and feeds. In five minutes the two-hundred-foot shining steel hull was a living thing as her rocket motors purred, warming up for the initial thrust.

Tom made a last sweeping check of the complicated board and turned to Captain Strong who stood to one side watching.

"Ship ready to blast off, sir," he announced. "Shall I check stations and proceed to raise ship?"

"Carry on, Cadet Corbett," Strong replied. "Log yourself in as skipper with me along as supercargo. I'll ride in the second pilot's chair."

Tom snapped a sharp salute and added vocally, "Aye, aye, sir!"

He turned back to the control board, strapped himself into the command pilot's seat and opened the circuit to the spaceport control tower.

"Rocket cruiser *Polaris* to spaceport control," he droned into the microphone. "Check in!"

"Spaceport control to *Polaris*," the voice of the tower operator replied. "You are cleared for blast-off in two minutes. Take out—orbit 75… repeat… 75…"

"*Polaris* to spaceport control. Orders received and understood. End

transmission!"

Tom then turned his attention to the station check.

"Control deck to radar deck. Check in."

"Radar deck, aye! Ready to raise ship." Roger's voice was relaxed, easy.

Tom turned to the board to adjust the teleceiver screen for a clear picture of the stern of the ship. Gradually it came up in as sharp detail as if he had been standing on the ground.

He checked the electric timing device in front of him that ticked off the seconds, as a red hand crawled around to *zero*, and when it swept down to the thirty-second mark, Tom pulled the microphone to his lips again. "Control deck to power deck. Check in!"

"Power deck, aye?"

"Energize the cooling pumps!"

"Cooling pumps, aye!" repeated Astro.

"Feed reactant!"

"Reactant at D-9 rate."

From seventy feet below them, Strong and Tom heard the hiss of the reactant mass feeding into the rocket motors, and the screeching whine of the mighty pumps that kept the mass from building too rapidly and exploding.

The second hand swept up to the twenty-second mark.

"Control deck to radar deck," called Tom. "Do we have a clear trajectory forward?"

"All clear forward and overhead," replied Roger.

Tom placed his hand on the master switch that would throw the combined circuits, instruments and gauges into the single act of blasting the mighty ship into space. His eyes glued to the sweeping hand, he counted past the twelve-second mark—eleven—ten—nine—

"Stand by to raise ship," he bawled into the microphone. "Minus—five—four—three—two—one—*zero*!"

Tom threw the master switch.

There was a split-second pause and then the great ship roared into life. Slowly at first, she lifted her tail full of roaring jets free of the ground. Ten feet—twenty—fifty—a hundred—five hundred—a thousand—picking up speed at an incredible rate.

Tom felt himself being pushed deeper and deeper into the softness of the acceleration cushions. He had been worried about not being able to keep his eyes open to see the dwindling Earth in the teleceiver over his head, but the tremendous force of the rockets pushing him against gravity to tear the two hundred tons of steel away from the Earth's grip held his eyelids open for him. As the powerful rockets tore deeper into the gap that separated the ship from Earth, he saw the spaceport gradually grow smaller. The rolling hills around the Academy closed in, and then the Academy itself, with the Tower of Galileo shrinking to a white stick, was lost in the brown and green that was Earth. The rockets pushed harder and harder and he saw the needle of the

acceleration gauge creep slowly up. Four—five—six—seven—eight—nine—ten miles a second!

When the awful crushing weight on his body seemed unbearable, when he felt as though he would never be able to draw another breath, suddenly the pressure lifted and Tom felt amazingly and wonderfully buoyant. He seemed to be floating in mid-air, his body rising against the webbed straps of his chair! With a start and a momentary wave of panic, he realized that he *was* floating! Only the straps kept him from rising to the ceiling of the control room!

Recovering quickly, he realized that he was in free fall. The ship had cleared the pull of earth's gravity and was out in space where everything was weightless. Reaching toward the control panel, he flipped the switch for the synthetic-gravity generator and, seconds later, felt the familiar and reassuring sensation of the chair under him as the generator supplied an artificial-gravity field to the ship.

As he loosened the straps in his chair, he noticed Captain Strong rising from his position beside him and he grinned sheepishly in answer to the twinkle in Strong's eye.

"It's all right, Tom," reassured Strong. "Happens to everyone the first time. Carry on."

"Aye, aye, sir," replied Tom and he turned to the microphone. "Control deck to all stations! We are in space! Observe standard cruise procedure!"

"Power deck, aye!" was Astro's blasting answer over the loud-speaker. "Yeeeoooww! Out where we belong at last."

"Radar bridge here," Roger's voice chimed in softly on the speaker. "Everything under control. And, Astro, you belong in a zoo if you're going to bellow like that!"

"Ahhh—rocket off, bubblehead!" The big Venusian's reply was good-natured. He was too happy to let Roger get under his skin.

"All right, you two," interrupted Tom. "Knock it off. We're on a ship now. Let's cut the kindergarten stuff!"

"Aye, aye, skipper!" Astro was irrepressible.

"Yes, *sir*!" Roger's voice was soft but Tom recognized the biting edge to the last word.

Turning away from the controls, he faced Captain Strong who had been watching quietly.

"*Polaris* space-borne at nine hundred thirty-three hours, Captain Strong. All stations operating efficiently."

"Very competent job, Corbett," nodded Strong in approval. "You handled the ship as if you'd been doing it for years."

"Thank you, sir."

"We'll just cruise for a while on this orbit so you boys can get the feel of the ship and of space." The Solar Guard officer took Tom's place in the command pilot's chair. "You knock off for a while. Go up to the radar bridge and have a

look around. I'll take over here."

"Yes, sir." Tom turned and had to restrain himself from racing up the ladder to the radar bridge. When he climbed through the hatch to Roger's station, he found his unit-mate tilted back in his chair, staring through the crystal blister over his head.

"Hiya, spaceboy," smiled Roger. He indicated the blister. "Take a look at the wide, deep and high."

Tom looked up and saw the deep blackness that was space.

"It's like looking into a mirror, Roger," he breathed in awe. "Only there isn't any other side—no reflection. It just doesn't stop, does it?"

"Nope," commented Roger, "it just goes on and on and on. And no one knows where it stops. And no one can even guess."

"Ah—you've got a touch of space fever," laughed Astro. "You'd better take it easy, pal."

Tom suppressed a smile. Now, for the first time, he felt that there was a chance to achieve unity among them. Kill him with kindness, he thought, that's the way to do it.

"All right, boys!" Captain Strong's voice crackled over the speaker. "Time to pull in your eyeballs and get to work again. We're heading back to the spaceport! Take your stations for landing!"

Tom and Astro immediately jumped toward the open hatch and started scrambling down the ladder toward their respective stations while Roger strapped himself into his chair in front of the astrogation panel.

Within sixty seconds the ship was ready for landing procedure and at a nod from Captain Strong, who again strapped himself into the second pilot's chair, Tom began the delicate operation.

Entering Earth's atmosphere, Tom gave a series of rapid orders for course changes and power adjustments, and then, depressing the master turn control, spun the ship around so that she would settle stern first toward her ramp at the Academy spaceport.

"Radar deck to control deck," called Roger over the intercom. "One thousand feet to touchdown!"

"Control deck, aye," answered Tom. "Control deck to power deck. Check in."

"Power deck, aye," replied Astro.

"Stand by to adjust thrust to maximum drive at my command," ordered Tom.

"Power deck, aye."

The great ship, balanced perfectly on the hot exhaust, slowly slipped toward the ground.

"Five hundred feet to touchdown," warned Roger.

"Main rockets full blast," ordered Tom.

The sudden blast of the powerful jets slowed the descent of the ship, and finally, fifty feet above the ground, Tom snapped out another order.

"Cut main rockets! Hold auxiliary!"

A moment later there was a gentle bump and the *Polaris* rested on the ramp, her nose pointed to the heavens.

"*Touchdown!*" yelled Tom. "Cut everything, fellas, and come up and sign the log. We made it—our first hop into space! We're spacemen!"

CHAPTER 10

"The next event will be," Warrant Officer McKenny's voice boomed over the loud-speaker and echoed over the Academy stadium, "the last semifinal round of mercuryball. *Polaris* unit versus *Arcturus* unit."

As two thousand space cadets, crowded in the grandstands watching the annual academy tournament, rose to their feet and cheered lustily, Tom Corbett turned to his unit-mates Astro and Roger and called enthusiastically, "O.K., fellas. Let's go out there and show them how to play this game!"

During the two days of the tournament, Tom, Roger and Astro, competing as a unit against all the other academy units, had piled up a tremendous amount of points in all the events. But so had Unit 77-K, now known as the *Capella* unit. Now with the *Capella* unit already in the finals, the *Polaris* crew had to win their semifinal round against the *Arcturus*, in order to meet the *Capella* in the final round for Academy honors.

"This is going to be a cinch," boasted Astro. "I'm going to burn 'em up!"

"Save it for the field," said Tom with a smile.

"Yeah, you big Venusian ape," added Roger. "Make points instead of space gas."

Stripped to the waist, wearing shorts and soft, three-quarter-length space boots, the three boys walked onto the sun-baked field amid the rousing cheers from the stands. Across the field, the cadets of the *Arcturus* unit walked out to meet them, stopping beside McKenny at the mid-field line. Mike waited for the six boys to form a circle around him, while he held the mercuryball, a twelve-inch plastic sphere, filled with air and the tricky tube of mercury.

"You all know the rules," announced McKenny abruptly. "Head, shoulders, feet, knees, or any part of your body except your hands, can touch the ball. *Polaris* unit will defend the north goal," he said, pointing to a white chalk line fifty yards away, "*Arcturus* the south," and he pointed to a line equally distant in the opposite direction. "Five-minute periods, with one-minute rest between. All clear?"

As captain of the *Polaris* unit, Tom nodded, while smiling at the captain of the *Arcturus* team, a tow-headed boy with short chunky legs named Schohari.

"All clear, Mike," said Tom.

"All clear here, Mike," responded Schohari.

"All right, shake hands and take your places."

The six boys shook hands and jogged toward respective opposite lines. Mike waited for them to reach their goal lines, and then placed the ball in the

middle of a chalk-drawn circle.

Toeing the line, Tom, Roger and Astro eyed the *Arcturus* crew and prepared for the dash to the ball.

"All right, fellas," urged Tom, "let's show them something!"

"Yeah," breathed Astro, "just let me get my size thirteens on that pumpkin before it starts twisting around!"

Astro wanted the advantage of the first kick at the ball while the mercury tube inside was still quiet. Once the mercury was agitated, the ball would be as easy to kick as a well-greased eel.

"We'll block for you, Astro," said Tom, "and you put every ounce of beef you've got into that first kick. If we're lucky, we might be able to get the jump on them!"

"Cut the chatter," snapped Roger nervously. "Baldy's ready to give us the go ahead!"

Standing on the side lines, Warrant Officer McKenny slowly raised his hand, and the crowd in the grandstand hushed in eager anticipation. A second passed and then there was a tremendous roar as he brought his hand down and blew heavily on the whistle.

Running as if their lives depended on it, the six cadets of the two units raced headlong toward the ball. Tom, just a little faster than Roger or Astro, flashed down the field and veered off to block the advancing Schohari. Roger, following him, charged into Swift, the second member of the *Arcturus* crew. Astro, a few feet in back of them, running with surprising speed for his size, saw that it was going to be a close race between himself and Allen, the third member of the *Arcturus* unit. He bowed his head and drove himself harder, the roar of the crowd filling his ears.

"… Go Astro!… Go Astro!…"

Pounding down for the kick, Astro gauged his stride perfectly and with one last, mighty leap swung his right foot at the ball.

There was a loud thud drowned by a roar from the crowd as the ball sailed off the ground with terrific force. And then almost immediately there was another thud as Allen rose in a desperate leap to block the ball with his shoulder. It caromed off at a crazy angle, wobbling in its flight as the mercury within rolled from side to side. Swift, of the *Arcturus* crew, reached the ball first and sent it sailing at an angle over Tom's head to bounce thirty feet away. Seeing Astro charge the ball, Tom threw a block on Allen to knock him out of the play. The big Venusian, judging his stride to be a little off, shortened his steps to move in for the kick. But just as he brought his foot forward to make contact, the ball spun away to the left. Astro's foot continued in a perfect arc over his head, throwing him in a heap on the ground.

Two thousand voices from the stands roared in one peal of laughter.

While Astro lay on the ground with the wind knocked out of him, Schohari and Swift converged on the ball. With Astro down and Tom out of position, the *Arcturus* unit seemed certain of scoring. But again the ball rolled crazily,

this time straight to Roger, the last defender. He nudged it between his opponents toward Tom, who, in turn, kicked it obliquely past Allen back to Roger again. Running with the grace and speed of an antelope, the blond cadet met the ball in mid-field, and when it dropped to the ground in front of him, sent it soaring across the goal with one powerful kick!

As the cadets in the stands sent up a tumultuous cheer for the perfectly executed play, the whistle blew, ending the period and the *Polaris* unit led, one to nothing.

Breathing deeply, Astro and Roger flopped down near Tom and stretched full length on the grass.

"That was a beautiful shot, Roger," said Tom. "Perfectly timed!"

"Yeah, hot-shot," agreed Astro, "I'm glad to see that big head of yours is good for something!"

"Listen, fellas," said Roger eagerly, ignoring Astro, "to go into the finals against Richards and the *Capella* unit, we've got to beat the *Arcturus* crew, right?"

"Yeah," agreed Tom, "and it won't be easy. We just happened to get the breaks."

"Then why don't we put the game on ice?" said Roger. "Freeze the ball! We got 'em one to nothing, that's enough to beat them. When the whistle blows and it's over, we win!"

Astro looked at Tom, who frowned and replied, "But we've still got three periods left, Roger. It isn't fair to freeze this early in the game. If it was the last minute or so, sure. But not so early. It just isn't fair."

"What do you want to do?" snarled Roger. "Win, or play fair?"

"Win, of course, but I want to win the right way," said Tom.

"How about you, Astro?" asked Roger.

"I feel the same way that Tom does," said the big cadet. "We can beat these guys easily—and on the square."

"You guys make it sound like I was cheating," snapped Roger.

"Well," said Tom, "it sure isn't giving the *Arcturus* guys a break."

The whistle blew for them to return to the goal line.

"Well," asked Roger, "do we freeze or don't we?"

"I don't want to. But majority always rules in this unit, Roger." Tom glanced at Astro. "How about it, Astro?"

"We can beat 'em fair and square. We play all out!" answered Astro.

Roger didn't say anything. He moved to one side and took his position for the dash down field.

The whistle blew again and the crowd roared as the two teams charged toward the ball. The cadets were eager to see if the *Arcturus* crew could tie the score or if the crew of the *Polaris* would increase its lead. But after a few moments of play, their cries of encouragement subsided into rumbles of discontent. In its eagerness to score, the *Arcturus* unit kept making errors and lost the ball constantly but the crew of the *Polaris* failed to capitalize. The

second period ended with the score unchanged.

As he slumped to the ground for the rest period, Astro turned on Roger bitterly. "What's the idea, Manning? You're dogging it!"

"You play your game, Astro," replied Roger calmly, "I'll play mine."

"We're playing this game as a team, Roger," chimed in Tom heatedly. "You're kicking the ball all over the lot!"

"Yeah," added Astro. "In every direction except the goal!"

"I was never clear," defended Roger. "I didn't want to lose possession of the ball!"

"You sure didn't," said Tom. "You acted as if it was your best friend and you never wanted to be separated from it!"

"We said we didn't want to freeze this game, Roger, and we meant it!" Astro glowered at his unit-mate. "Next period you show us some action! If you don't want to score, feed it to us and we'll save you the trouble!"

But the third period was the same. While Tom and Astro dashed up and down the field, blocking out the members of the *Arcturus* crew to give Roger a clear shot, he simply nudged the ball back and forth between the side lines, ignoring his teammates' pleas to drive forward. As the whistle sounded for the end of the period, boos and catcalls from the grandstand filled the air.

Tom's face was an angry red as he faced Roger again on the side lines

during the rest period.

"You hear that, Roger?" he growled, nodding his head toward the stands. "That's what they think of your smart playing!"

"What do I care?" replied the blond cadet arrogantly. "They're not playing this game! I am!"

"And we are too!" Astro's voice was a low rumble as he came up behind Manning. "If you don't give us a chance, so help me, I'll use your head for a ball!"

"If you're so interested in scoring, why don't you go after the ball yourselves then?" said Roger.

"Because we're too busy trying to be a team!" snapped Tom. "We're trying to clear shots for you!"

"Don't be so generous," sneered Roger.

"I'm warning you, Roger"—Astro glared at the arrogant cadet—"if you don't straighten out and fly right—"

McKenny's whistle from the far side lines suddenly sounded, interrupting the big cadet, and the three boys trooped back out on the field again. Again the air was filled with boos and shouts of derision and Tom's face flushed with shame.

This time, when McKenny's hand flashed downward, Tom streaked for the

ball, instead of Schohari, his usual opponent. He measured his stride carefully and reached the ball in perfect kicking position.

He felt the satisfying thud against his foot, and saw the ball shoot out high in front of him and head for the goal line. It was a beautiful kick. But then, the ball suddenly sank, its flight altered by the action of the mercury. Running down field, Tom saw Swift and Allen meet the ball together. Allen blocked it with his chest and caromed it over to Swift. Swift let the ball drop to the ground, drawing his foot back to kick. But again, the mercury changed the ball's action, twisting it to one side and Swift's kick caught it on the side. Instead of the ball going down field, it veered to the left, in the path of Astro. Quickly getting his head under it, he shifted it to Roger, who streaked in and stopped it with his hip. But then, instead of passing ahead to Tom, who by now was down field and in the open, Roger prepared to kick for the goal himself.

Tom shouted a warning but it was too late. Schohari came rushing in behind him, and at running stride, met the ball squarely with his right foot. It sailed high in the air and over the *Polaris* goal line just as the whistle blew. The game was tied.

"That was some play, Manning," said Astro, when they were lined up waiting for the next period to begin.

"You asked for it," snapped Roger, "you were yapping at me to play, and now look what's happened!"

"Listen, you loudmouthed punk!" said Astro, advancing toward the smaller cadet, but just then the whistle blew and the three boys ran out onto the field.

The *Arcturus* crew swept down the field quickly, heading for the ball and seemingly ignoring the *Polaris* unit. But Schohari slipped and fell on the grass which gave Tom a clear shot at the ball. He caught it with the side of his boot and passed it toward Roger. But Allen, at full speed, came in and intercepted, sending the ball in a crazy succession of twists, turns and bounces. The crowd came to its feet as all six cadets made desperate attempts to clear the skittering ball with none of them so much as touching it. This was the part of mercuryball that pleased the spectator. Finally, Schohari managed to get a toe on it and he sent it down field, but Astro had moved out to play defense. He stopped the ball on his shoulder and dropped it to the ground. Steadying it there, he waited until Tom was in the clear and kicked it forty yards to the mid-field stripe.

The crowd came to its feet, sensing this final drive might mean victory for the *Polaris* crew. The boys of the *Arcturus* swarmed in—trying to keep Tom from scoring. With a tremendous burst of speed, Tom reached the ball ahead of Schohari, and with the strength of desperation, he slammed his foot against it. The whistle blew ending the game as the ball rose in an arc down the field and fell short of the goal by ten feet. There was a groan from the crowd.

But suddenly the ball, still reacting to the mercury inside, spun like a top, rolled sideways, and as if it were being blown by a breeze, rolled toward the

goal line and stopped six inches inside the white chalk line.

There was a moment's pause as the crowd and the players, stunned by the play, grasped what had happened. Then swelling into a roar, there was one word chanted over and over—"*Polaris—Polaris—Polaris…*"

The *Polaris* unit had reached the finals of the Academy tournament.

* * * * *

During the intermission Charlie Wolcheck, unit commander of the *Capella* crew, walked over to the refreshment unit behind the grandstand where Steve Strong, Dr. Dale and Commander Walters were drinking Martian water and eating spaceburgers.

"Afternoon, Commander," saluted Wolcheck. "Hello, Joan, Steve. Looks as though your boys on the *Polaris* are going to meet their match this afternoon. I've got to admit they're good, but with Tony Richards feeding passes to Al Davison and with the blocking of Scott McAvoy—" The young officer broke off with a grin.

"I don't know, Charlie," Commander Walters said with a wink to Dr. Dale. "From the looks of Cadet Astro, if he ever gets his foot on the ball, your *Capella* unit will have to go after it with a jet boat."

"Why, Commander," replied Wolcheck, laughing good-naturedly, "Tony Richards is one of the finest booters I've ever seen. Saw him make a goal from the sixty-yard line from a standstill."

Steve Strong waved a Martian water pop bottle at young Wolcheck in a gesture of friendly derision.

"Did you happen to see the play in the first period?" he boasted. "Manning took a perfect pass from Astro and scored. You're finished, Wolcheck, you and your *Capella* unit won't even come close. "

"From what I hear and see, Manning seems to be a little sore that he can't make all the scores himself," grinned Wolcheck slyly. "He wants to be the whole show!"

Strong reddened and turned to put the empty bottle on the counter, using it as an excuse to hide his feelings from the commander and Joan. So Wolcheck had observed Manning's attitude and play on the field too.

Before Strong could reply, a bugle sounded from the field and the group of Solar Guard officers returned to their seats for the final game of the tournament between the *Capella* and the *Polaris* units.

Out on the field Mike made his usual speech about playing fair and gave the cadets the routine instructions of the game, reminding them that they were spacemen first, unit-members second, and individuals third and last. The six boys shook hands and jogged down the field to take up their positions.

"How about concentrating on the passes Richards is going to feed to Davison," Tom asked his unit-mates. "Never mind blocking out Richards and McAvoy."

"Yeah," agreed Astro, "play for the ball. Sounds good to me."

"How about it, Roger?" asked Tom.

"Just play the game," said Roger. And then added sarcastically, "And don't forget to give them every chance to score. Let's play fair and square, the way we did with the *Arcturus* unit."

"If you feel that way, Manning," answered Astro coldly, "you can quit right now! We'll handle the *Capella* guys ourselves!"

Before Roger could answer, McKenny blew the ready whistle and the three boys lined up along the white chalk line preparing for the dash to the waiting ball.

The cadets in the stands were hushed. McKenny's hand swept up and then quickly down as he blew the whistle. The crowd came to its feet, roaring, as Tom, five steps from his own goal line, tripped and fell headlong to the grass, putting him out of the first play. Astro and Roger charged down the field, with Astro reaching the ball first. He managed a good kick, but Richards, three feet away, took the ball squarely on his chest. The mercuryball fell to the ground, spun in a dizzy circle and with a gentle tap by Richards, rolled to Davison, who took it in stride and sent it soaring for a forty-five-yard goal.

The *Capella* unit had drawn first blood.

"Well, hot-shot," snarled Roger back on the starting line, "what happened to the big pass-stealing idea?"

"I tripped, Manning," said Tom through clenched teeth.

"Yeah! Tripped!" sneered Roger.

The whistle blew for the next goal.

Tom, with an amazing burst of speed, swept down the field, broke stride to bring him in perfect line with the ball and with a kick that seemed almost lazy, sent the ball from a dead standstill, fifty yards over the *Capella* goal before any of the remaining players were within five feet of it, and the score was tied.

The crowd sprang to its feet again and roared his name.

"That was terrific!" said Astro, slapping Tom on the back as they lined up again. "It looked as though you hardly kicked that ball at all."

"Yeah," muttered Roger, "you really made yourself the grandstand's delight!"

"What's that supposed to mean, Manning?" asked Astro.

"Superman Corbett probably burned himself out! Let's see him keep up that speed for the next ten minutes!"

The whistle blew for the next goal, and again the three boys moved forward to meet the onrushing *Capella* unit.

Richards blocked Astro with a twist of his body, and without stopping his forward motion, kicked the ball squarely toward the goal. It stopped ten feet short, took a dizzying spin and rolled away from the goal line. In a flash, the

six boys were around the ball, blocking, shoving, and yelling instructions to each other while at the same time kicking at the unsteady ball. With each grazing kick, the ball went into even more maddening spins and gyrations.

At last Richards caught it with the side of his foot, flipped it to McAvoy who dropped back, and with twenty feet between him and the nearest *Polaris* member, calmly booted it over the goal. The whistle blew ending the first period, and the *Capella* unit led two to one.

During the next three periods, the *Capella* unit worked like a well-oiled machine. Richards passed to Davison or McAvoy, and when they were too well guarded, played brilliantly alone. The *Polaris* unit, on the other hand, appeared to be hopelessly outclassed. Tom and Astro fought like demons but Roger's lack of interest gave the *Capella* unit the edge in play. At the end of the fourth period, the *Capella* team led by three points, seven to four.

While the boys rested before the fifth and final period, Captain Strong, having watched the play with keen interest, realized that Roger was not playing up to his fullest capabilities. Suddenly he summoned a near-by Earthworm cadet, scribbled a message on a slip of paper and instructed the cadet to take it directly to Roger.

"Orders from the coach on the side lines?" asked Wolcheck as he noticed Strong's action.

"You might call it that, Charlie," answered Steve blandly.

On the field, the cadet messenger handed Roger the slip of paper, not mentioning that it was from Strong, and hurried back to the stands.

"Getting fan mail already?" asked Astro.

Roger ignored the comment and opened the slip of paper to read:

"… It might interest you to know that the winning team of the mercuryball finals is to be awarded a first prize of three days' liberty in Atom City…" There was no signature.

Roger stared up into the stands and searched vainly for some indication of the person who might have sent him the note. The crowd hushed as McKenny stepped forward for the starting of the last period.

"What was in the note, Roger?" asked Tom.

"The winning combination," smiled Roger lazily. "Get set for the fastest game of mercuryball you've ever played, Corbett! We've got to pull this mess out of the fire!"

Bewildered, Tom looked at Astro who merely shrugged his shoulders and took his place ready for the whistle. Roger tucked the note into his shorts and stepped up to the line.

"Listen, Corbett," said Roger, "every time Richards gets the ball, he kicks it to his left, and then McAvoy feints as if to get it, leaving Davison in the open. When you go to block Davison, you leave Richards in the clear. He just keeps the ball. He's scored three times that way!"

"Yeah," said Tom, "I noticed that, but there was nothing I could do about it, the way you've been playing."

"Kinda late in the game for any new ideas, Manning," growled Astro. "Just get the ball and pass it to me."

"That's my whole idea! Play back, Astro. Move like you're very tired, see? Then they'll forget about you and play three on two. You just be ready to kick and kick hard!"

"What's happened to you, Roger?" asked Tom. "What was in that note?"

Before Roger could answer, the whistle and the roar from the crowd signaled the beginning of the last period. The cadets raced down the field, Roger swerving to the left and making a feint at blocking Richards. He missed intentionally and allowed Richards to get the ball, who immediately passed to the left. McAvoy raced in on the ball, Tom made a move as if to block him, reversed, and startled the onrushing Richards with a perfect block. The ball was in the clear. Roger gave it a half kick and the ball landed two feet in front of Astro. The big cadet caught it perfectly on the first bounce and kicked it on a line across the goal, seventy yards away.

Up in the stands, Steve Strong smiled as he watched the score change on the board: "*Capella* seven—*Polaris* five!"

In rapid succession, the *Polaris* unit succeeded in intercepting the play of the *Capella* unit and rolling up two goals to an even score. Now, there were only fifty-five seconds left to play.

The cadets in the stands roared their approval of the gallant effort made by the three members of the *Polaris* crew. It had been a long time since mercuryball had been played with such deadly accuracy at Space Academy and everyone who attended the game was to remember for years to come the last play of the game.

McKenny blew the whistle again and the boys charged forward, but by now, aware of the sudden flash of unity on the part of the opposing team, the *Capella* unit fought desperately to salvage at least a tie.

Tom managed to block a kick by Richards, and the ball took a dizzy hop to the left, landing in front of Astro. He was in the clear. The stands were in an uproar as the cadets saw that the game was nearly over. Astro paused a split second, judged the ball and stepped forward to kick. But the ball spun away, just as Astro swung his leg. And at that instant, McAvoy came charging in from the left, only to be blocked by Roger. But the force of McAvoy's charge knocked Roger back into Astro. Instead of kicking the ball, Astro caught Roger on the side of the head. Roger fell to the ground and lay still. He was knocked cold. Astro lost his balance, twisted on one leg unsteadily, and then fell to the ground. When he tried to get up, he couldn't walk. He had twisted his ankle.

The *Capella* unit members stood still, confused and momentarily unable to take advantage of their opportunity. Without a moment's hesitation, Tom swept in and kicked the ball before his opponents realized what had happened. The ball drifted up in a high arc and landed with several bounces, stopping five feet from the goal.

Suddenly Richards, McAvoy and Davison came alive and charged after Tom, who was running for the ball as fast as his weary legs would carry him. He saw Richards pull up alongside of him, then pass him. Then Davison and McAvoy closed in on either side to block and give Richards a clear shot back down the field and a certain score.

Richards reached the ball, stopped and carefully lined up his kick, certain that his teammates could block out Tom. But the young cadet, in a last desperate spurt, outraced both McAvoy and Davison. Then, as Richards cocked his foot to kick, Tom jumped. With a mighty leaping dive, he sent his body hurtling headlong toward Richards just as he kicked. Tom's body crashed into the ball and Richards. The two boys went down in a heap but the ball caromed off his chest and rolled over the goal line.

The whistle blew ending the game.

In an instant, two thousand officers, cadets and enlisted men went wild as the ball rolled across the goal line.

The *Polaris* crew had won eight goals to seven!

From every corner of the field, the crowd cheered the cadets who had finished the game, had won it in the final seconds with two of them sprawled on the field unconscious and a third unable to stand on his feet.

Up in the stands, Captain Strong turned to Commander Walters. He found it hard to keep his eyes from filling up as he saluted briskly.

"Captain Strong reporting, sir, on the success of the *Polaris* unit to overcome their differences and become a fighting unit! And I mean *fight*!"

CHAPTER 11

"Atom City Express now arriving on track two!" The voice boomed over the loud-speaker system; and as the long, gleaming line of monorail cars eased to a stop with a soft hissing of brakes, the three cadets of the *Polaris* unit moved eagerly in that direction.

"Atom City, here we come," cried Astro.

"We and a lot of others with the same idea," said Tom. And, in fact, there were only a few civilians in the crowd pressing toward the car doors. Uniforms predominated—the blue of the cadets, enlisted men in scarlet, even a few in the black and gold uniforms which identified the officers of the Solar Guard.

"Personally," whispered Tom to his friends, "the first thing I want to do at Atom City is take a long walk—somewhere where I won't see a single uniform."

"As for me," drawled Roger, "I'm going to find a stereo studio where they're showing a Liddy Tamal feature. I'll sit down in a front-row seat and just watch that girl act for about six hours."

He turned to Astro. "And how about you?"

"Why… why… I'll string along with you, Roger," said the cadet from Venus. "It's been a long time since I've seen a—a—"

Tom and Roger laughed.

"A what?" teased Tom.

"A—a—girl," sputtered Astro, blushing.

"I don't believe it," said Roger in mock surprise. "I never—"

"Come on," interrupted Tom. "Time to get aboard."

They hurried across the platform and entered the sleek car. Inside they found seats together and sank into the luxurious chairs.

Astro sighed gently, stretched out his long legs and closed his eyes blissfully for a few moments.

"Don't wake me till we get started," he said.

"We already have," returned Tom. "Take a look."

Astro's eyes popped open. He glanced through the clear crystal glass at the rapidly moving landscape.

"These express jobs move on supercushioned ball bearings," explained Tom. "You can't even feel it when you pull out of the station."

"Blast my jets!" marveled Astro. "I'd sure like to take a look at the power unit on this baby."

"Even on a vacation, all this guy can think about is power!" grumbled Roger.

"How about building up our own power," suggested Tom. "It's a long haul to Atom City. Let's get a bite to eat."

"O.K. with me, spaceboy!" Astro grinned. "I could swallow a whole steer!"

"That's a great idea, cadet," said a voice from behind them.

It came from a gray-haired man, neatly dressed in the black one-piece stylon suit currently in fashion, and with a wide red sash around his waist.

"Beg pardon, sir," said Tom, "were you speaking to us?"

"I certainly was," replied the stranger. "I'm asking you to be my guests at dinner. And while I may not be able to buy your friend a whole steer, I'll gladly get him a piece of one."

"Hey," said Astro, "do you think he means it?"

"He seems to," replied Tom. He turned to the stranger. "Thanks very much, sir, but don't think Astro was just kidding about his appetite."

"I'm sure he wasn't." The gray-haired man smiled, and came over and stretched out his hand. "Then it's a deal," he said. "My name's Joe Bernard."

"Bernard!" exclaimed Roger. He paled and glanced quickly at his two friends, but they were too busy looking over their new friend to notice.

"Glad to know you, sir," said Tom. "I'm Tom Corbett. This is Astro, from Venus. And over here is—"

"Roger's my name," the third cadet said quickly. "Won't you sit down, sir?"

"No use wasting time," said Bernard. "Let's go right into the dining car." The cadets were in no mood to argue with him. They picked up the small microphones beside their chairs and sent food orders to the kitchen; and by the time they were seated in the dining car, their orders were ready on the table.

Mr. Bernard, with a twinkle in his eye, watched them enjoy their food. In particular, he watched Astro.

"I warned you, sir," whispered Tom, as the Venusian went to work on his second steak.

"I wouldn't have missed this for anything," said Bernard. He smiled, lit a cigar of fine Mercurian leaf tobacco and settled back comfortably.

"And now," he said, "let me explain why I was so anxious to have dinner with you. I'm in the import-export business. Ship to Mars, mostly. But all my life I've wanted to be a spaceman."

"Well, what was the trouble, Mr. Bernard?" asked Roger.

The man in black sighed. "Couldn't take the acceleration, boys. Bad heart. I send out more than five hundred cargoes a year, to all parts of the solar system; but myself, I've never been more than a mile off the surface of the earth."

"It sure must be disappointing—to want to blast off, and know that you can't," said Tom.

"I tried, once," said Bernard, with a rueful smile. "Yup! I tried." He gazed

thoughtfully out the window.

"When I was your age, about twenty, I wanted to get into Space Academy worse than anybody I'd ever met." He paused. "Except for one person. A boyhood buddy of mine—named Kenneth—"

"Excuse me, sir," cut in Roger quickly, "but I think we'd better get back to our car. With this big liberty in front of us, we need a lot of rest."

"But, Roger!" exclaimed Tom.

Bernard smiled. "I understand, Roger. Sometimes I forget that I'm an old man. And when you've already tasted the excitement of space travel, talk like mine must seem rather dull." He stood up and faced the three cadets. "It's been very pleasant, Corbett, Astro, Roger. Now run along and get your rest. I'll just sit here for a while and watch the scenery."

"Thank you, sir," said Tom, "for the dinner—your company—and everything," he finished lamely.

There was a chorus of good-byes and the boys returned to their car. But there was little conversation now. Gradually, the lights in the cars dimmed to permit sleep. But Tom kept listening to the subdued click of the monorail—and kept wondering. Finally Roger, sleeping next to him, wakened for a moment.

"Roger," said Tom, "I want to ask you something."

"Wait'll the mornin'," mumbled Roger. "Wanta sleep."

"The way you acted with Bernard," Tom persisted. "You ate his dinner and then acted like he was poison. Why was that, Roger?"

The other sat bolt upright. "Listen," he said. "Listen!" Then he slumped back in his chair and closed his eyes. "Lemme sleep, Corbett. Lemme sleep, I tell you." He turned his back and in a moment was making sounds of deep slumber, but Tom felt sure that Roger was not asleep—that he was wide awake, with something seriously bothering him.

Tom leaned back and gazed out over the passing plains and up into the deep black of space. The Moon was full, large and round. He could distinguish *Mare Imbrium*, the largest of Luna's flat plains visible from Earth, where men had built the great metropolis of Luna City. Farther out in the deep blackness, he could see Mars, glowing like a pale ruby. Before long he would be up there again. Before long he would be blasting off in the *Polaris* with Astro and with Roger—

Roger! Why had he acted so strangely at dinner?

Tom remembered the night he saw Roger in Galaxy Hall alone at night, and the sudden flash on the field a few days before when they had won the mercuryball game. Was there some reason behind his companion's strange actions? In vain, Tom racked his brain to find the answer. There had to be some explanation. Yet what could it possibly be? He tossed and turned and worried and finally—comfortable as the monorail car was—he fell asleep from sheer exhaustion.

* * * * *

Atom City! Built of the clear crystal mined so cheaply on Titan, moon of Saturn, Atom City had risen from a barren North American wasteland to become a show place of the universe. Here was the center of all space communications—a proud city of giant crystal buildings. Here had been developed the first slidewalks, air cars, three-dimensional stereos and hundreds of other ideas for better living.

And here at Atom City was the seat of the great Solar Alliance, housed in a structure which covered a quarter of a mile at its base and which towered three thousand noble feet into the sky.

The three cadets stepped out of the monorail and walked across the platform to a waiting air car—jet-powered, shaped like a teardrop and with a clear crystal top.

"We want the best hotel in town," said Astro grandly to the driver.

"And get this speed bug outa here in a hurry," Roger told him. "There's a lot we want to do."

The driver couldn't help smiling at the three cadets so obviously enjoying their first leave.

"We've got three top hotels," he said. "One's as good as the other. They're the Earth, the Mars and the Venus."

"The Earth," voted Tom.

"The Mars," shouted Roger.

"The *Venus*!" roared Astro.

"All right," said the driver with a laugh, "make up your minds."

"Which of 'em is nearest the center of the city?" Tom asked.

"The Mars."

"Then blast off for Mars!" ordered Tom, and the air car shot away from the station and moved up into the stream of expressway traffic fifty feet above the ground.

As the little car sped along the broad avenue, Tom remembered how often, as a boy, he'd envied the Space Cadets who'd come to his home town of New Chicago on leave. Now here *he* was—in uniform, with a three-day pass, and all of Atom City to enjoy it in.

A few minutes later the air car stopped in front of the Mars Hotel. The cadets saw the entrance loom before them—a huge opening, with ornate glass and crystal in many different colors.

They walked across the high-ceilinged lobby toward the desk. All around them, the columns that supported the ceiling were made of the clearest crystal. Their feet sank into soft, lustrous deep-pile rugs made of Venusian jungle grass.

The boys advanced toward the huge circular reception desk where a pretty girl with red hair waited to greet them.

"May I help you?" she asked. She flashed a dazzling smile.

"You're a lucky girl," said Roger. "It just so happens you *can* help me. We'll have dinner together—just the two of us—and then we'll go to the stereos. After which we'll—"

The girl shook her head sadly. "I can see your friend's got a bad case of rocket shock," she said to Tom.

"That's right," Tom admitted. "But if you'll give us a triple room, we'll make sure he doesn't disturb anybody."

"Ah," said Roger, "go blow your jets!"

"I have a nice selection of rooms here on photo-slides if you'd care to look at them," the girl suggested.

"How many rooms in this hotel, Beautiful?" asked Roger.

"Nearly two thousand," answered the girl.

"And you have photo-slides of all two thousand?"

"Why, yes," answered the girl. "Why do you ask?"

"You and Astro go take a walk, Corbett," said Roger with a grin. "I'll select our quarters!"

"You mean," asked the girl, a little flustered, "you want to look at all the slides?"

"Sure thing, Lovely!" said Roger with a lazy smile.

"But—but that would take three hours!"

"Exactly my idea!" said Roger.

"Just give us a nice room, Miss," said Tom, cutting in. "And please excuse Manning. He's so smart, he gets a little dizzy now and then. Have to take him over to a corner and revive him." He glanced at Astro, who picked Roger up in his arms and walked away with him as though he were a baby.

"Come on, you space Romeo!" said Astro.

"Hey—ouch—hey—lemme go, ya big ape. You're killing your best friend!" Roger twisted around in Astro's viselike grasp, to no avail.

"Space fever," explained Tom. "He'll be O.K. soon."

"I think I understand," said the girl with a nervous smile.

She handed Tom a small flashlight. "Here's your photoelectric light key for room 2305 F. That's on the two hundred thirtieth floor."

Tom took the light key and turned toward the slidestairs where Astro was holding Roger firmly, despite his frantic squirming.

"Hey, Tom," cried Roger, "tell this Venusian ape to let me go!"

"Promise to behave yourself?" asked Tom.

"We came here to have fun, didn't we?" demanded Roger.

"That doesn't mean getting thrown out of the hotel because you've got to make passes at every beautiful girl."

"What's the matter with beautiful girls?" growled Roger. "They're official equipment, like a radar scanner. You can't get along without them!"

Tom and Astro looked at each other and burst out laughing.

"Come on, you jerk," said Astro, "let's get washed up. I wanta take a walk and get something to eat. I'm hungry again!"

An hour later, showered and dressed in fresh uniforms, the *Polaris* crew began a tour of the city. They went to the zoo and saw dinosaurs, a tyrannosaurus, and many other monsters extinct on Earth millions of years ago, but still breeding in the jungles of Tara. They visited the council chamber of the Solar Alliance where delegates from the major planets and from the larger satellites, such as Titan of Saturn, Ganymede of Jupiter, and Luna of Earth made the laws for the tri-planetary league. The boys walked through the long halls of the Alliance building, looking at the great documents which had unified the solar system.

They reverently inspected original documents of the Universal Bill of Rights and the Solar Constitution, which guaranteed basic freedoms of speech, press, religion, peaceful assembly and representative government. And even brash, irrepressible Roger Manning was awestruck as they tiptoed into the great Chamber of the Galactic Court, where the supreme judicial body of the entire universe sat in solemn dignity.

Later, the boys visited the Plaza de Olympia—a huge fountain, filled with water taken from the Martian Canals, the lakes of Venus and the oceans of Earth, and ringed by a hundred large statues, each one symbolizing a step in mankind's march through space.

But then, for the Space Cadets, came the greatest thrill of all—a trip through the mighty Hall of Science, at once a museum of past progress and a laboratory for the development of future wonders.

Thousands of experiments were being conducted within this crystal palace, and as Space Cadets, the boys were allowed to witness a few of them. They watched a project which sought to harness the solar rays more effectively; another which aimed to create a new type of fertilizer for Mars, so people of that planet would be able to grow their own food in their arid deserts instead of importing it all from other worlds. Other scientists were trying to adapt Venusian jungle plants to grow on other planets with a low oxygen supply; while still others, in the medical field, sought for a universal antibody to combat all diseases.

Evening finally came and with it time for fun and entertainment. Tired and leg weary, the cadets stepped on a slidewalk and allowed themselves to be carried to a huge restaurant in the heart of Atom City.

"Food," exulted Astro as the crystal doors swung open before them. "Smell it! Real, honest-to-gosh food!" He rushed for a table.

"Hold it, Astro," shouted Tom. "Take it easy."

"Yeah," added Roger. "It's been five hours since your last meal—not five weeks!"

"Meal!" snorted the Venusian cadet. "Call four spaceburgers a meal? And anyway, it's been six hours, not five."

Laughing, Tom and Roger followed their friend inside. Luckily, they found a table not far from the door, where Astro grabbed the microphone and ordered his usual tremendous dinner.

The three boys ate hungrily as course after course appeared on the middle of the table, via the direct shaft from the kitchen. So absorbed was Manning that he did not notice the approach of a tall dark young man of about his own age, dressed in the red-brown uniform of the Passenger Space Service. But the young man, who wore a captain's high-billed hat, suddenly caught sight of Roger.

"Manning," he called, "what brings you here?"

"Al James!" cried Roger and quickly got up to shake hands. "Of all the guys in the universe to show up! Sit down and have a bite with us."

The space skipper sat down. Roger introduced him to Tom and Astro. There was a round of small talk.

"Whatever made you become a Space Cadet, Roger?" asked James finally.

"Oh, you know how it is," said Roger. "You can get used to anything."

Astro almost choked on a mouthful of food. He shot a glance at Tom, who shook his head as though warning him not to speak.

James grinned broadly. "I remember how you used to talk back home. The Space Cadets were a bunch of tin soldiers trying to feel important. The Academy was a lot of space gas. I guess, now, you've changed your mind."

"Maybe I have," said Roger. He glanced uneasily at his two friends, but they pretended to be busy eating. "Maybe I have." Roger's eyes narrowed, his voice became a lazy drawl. "At that it's better'n being a man in a monkey suit, with nothing to do but impress the passengers and order around the crew."

"Wait a minute," said James. "What kind of a crack is that?"

"No crack at all. Just the way I feel about you passenger gents who don't know a rocket tube from a ray-gun nozzle."

"Look, Manning," returned James. "No need to get sore, just because you couldn't do any better than the Space Cadets."

"Blast off," shouted Roger, "before I fuse your jets."

Tom spoke up. "I think you'd better go, Captain."

"I've got six men outside," sneered the other. "I'll go when I'm ready."

"You're ready now," spoke up Astro. He stood up to his full height. "We don't want any trouble," the cadet from Venus said, "but we're not braking our jets to get away from it, either."

James took a good look at Astro's powerful frame. Without another word he walked away.

Tom shook his head. "That pal of yours is a real Space Cadet fan, isn't he, Roger?"

"Yeah," said Astro. "Just like Manning is himself."

"Look," said Roger. "Look, you guys—" He hesitated, as though intending to say something more, but then he turned back to his dinner. "Go on—finish your food," he growled. He bent over his plate and ate without lifting his eyes.

And not another word was spoken at the table until a young man approached, carrying a portable teleceiver screen.

"Pardon me," he said. "Is one of you Cadet Tom Corbett?"

"Why—I am," acknowledged Tom.

"There's a call for you. Seems they've been trying to reach you all over Atom City." He placed the teleceiver screen on the table, plugged it into a floor socket and set the dials.

"Hope's there's nothing wrong at home," said Tom to his friends. "My last letter from Mom said Billy was messing around with a portable atom reactor and she was afraid he might blow himself up."

A picture began to take shape on the screen. "Migosh," said Astro. "It's Captain Strong."

"It certainly is," said the captain's image. "Having dinner, eh, boys? Ummmm—those baked shrimps look good."

"They're terrific," said Astro. "Wish you were here."

"Wish you could stay there," said Captain Strong.

"Oh, no!" moaned Astro. "Don't tell me!"

"Sorry, boys," came the voice from the teleceiver. "But that's it. You've got to return to the Academy immediately. The whole cadet corps has been ordered into space for special maneuvers. We blast off tomorrow morning at six hundred."

"But, sir," objected Tom, "we can't get a monorail until morning!"

"This is an official order, Corbett. So you have priority over all civilian transportation." The Solar Guard captain smiled. "I've tied up a whole bank of teleceivers in Atom City searching for you. Get back to Space Academy fast—commandeer an air car if you must, but be here by six hundred hours!" The captain waved a cheery good-bye and the screen went dark.

"Space maneuvers," breathed Astro. "The real thing."

"Yeah," agreed Tom. "Here we go!"

"Our first hop into deep space!" said Roger. "Let's get out of here!"

CHAPTER 12

"The following ships in Squadron A will blast off immediately," roared Commander Walters over the teleceiver. He looked up alertly from a chart before him in the Academy spaceport control tower. He began to name the ships. "*Capella*, orbital tangent—09834, *Arcturus*, orbital tangent—09835, *Centauri*, orbital tangent—09836, *Polaris*, orbital tangent—09837!"

Aboard the space cruiser *Polaris*, Tom Corbett turned away from the control board. "That's us, sir," he said to Captain Strong.

"Very well, Corbett." The Solar Guard captain walked to the ship's intercom and flipped on the switch.

"Astro, Roger, stand by!"

Astro and Roger reported in. Strong began to speak. "The cadet corps has been divided into squadrons of four ships each. We are command ship of Squadron A. When we reach free-fall space, we are to proceed as a group until eight hundred hours, when we are to open sealed orders. Each of the other seven squadrons will open their orders at the same time. Two of the squadrons will then act as invaders while the remaining six will be the defending fleet. It will be the invaders' job to reach their objective and the defenders' job to stop them."

"Spaceport control to rocket cruiser *Polaris*, your orbit has been cleared for blast-off…" The voice of Commander Walters interrupted Strong in his instructions and he turned back to Tom.

"Take over, Corbett."

Tom turned to the teleceiver. "Rocket cruiser *Polaris* to spaceport control."

"… Blast off minus two—six hundred forty-eight…"

"I read you clear," said Tom. He clicked off the teleceiver and turned back to the intercom. "Stand by to raise ship! Control deck to radar deck. Do we have clear trajectory forward and up, Roger?"

"All clear forward and up," replied Roger.

"Control deck to power deck… energize the cooling pumps!"

"Cooling pumps, aye," came from Astro.

The giant ship began to shudder as the mighty pumps on the power deck started their build.

Tom strapped himself into the pilot's seat and began checking the dials in front of him. Satisfied, he fastened his eyes on the sweep hand of the time clock. Above his head, the teleceiver screen brought him a clear picture of the Academy spaceport. He watched the giant cruisers take to the air one by one

and rocket into the vastness of space.

The clock hand reached the ten-second mark.

"Stand by to raise ship!" Tom called into the intercom. The red hand moved steadily, inexorably. Tom reached for the master switch.

"Blast off minus—five—four—three—two—one—*zero*!"

Tom threw the switch.

The great ship hovered above the ground for a few moments. Then it heaved itself skyward, faster and ever faster, pushing the Earthmen deep into their acceleration cushions.

Reaching free-fall space, Tom flipped on the artificial-gravity generator. He felt its pull on his body, quickly checked all the instruments and turned to Captain Strong.

"Ship space-borne at six hundred fifty-three, sir."

"Very well, Corbett," replied Strong. "Check in with the *Arcturus*, *Capella* and the *Centauri*, form up on one another and assume a course that will bring you back over Academy spaceport at eight hundred hours, when we will open orders."

"Yes, sir," said Tom, turning back eagerly to the control board.

For nearly two hours the four rocket ships of Squadron A moved through space in a perfect arc, shaping up for the 0800 deadline. Strong made use of the time to check a new astrogation prism perfected by Dr. Dale for use at hyperspace speeds. Tom rechecked his instruments, then prepared hot tea and sandwiches in the galley for his shipmates.

"This is what I call service," said Astro. He stood stripped to the waist, a wide leather belt studded with assorted wrenches of various shapes and sizes strapped around his hips. In one hand he carried a wad of waste cotton with which he continually polished the surfaces of the atomic motors, while his eyes constantly searched the many gauges in front of him for the slightest sign of engine failure.

"Never mind bringing anything up to Manning. I'll eat his share."

Astro had deliberately turned the intercom on so Roger on the radar deck might hear. The response from that corner was immediate and emphatic.

"Listen, you rocket-headed grease monkey," yelled Roger. "If you so much as smell that grub, I'll come down and feed you into the reactant chamber!"

Tom smiled at Astro and turned to the ladder leading up from the power deck. Passing through the control deck on the way to the radar bridge, he glanced at the clock. It was ten minutes to eight.

"Only one thing I'm worried about, Corbett," said Roger through a mouthful of sandwich.

"What's that?" asked Tom.

"Collision!" said Roger. "Some of these space-happy cadets might get excited, and I for one don't want to wind up as a flash in Earth's atmosphere!"

"Why, you have radar, to see anything that goes on."

"Oh, sure," said Roger, "I can keep this wagon outa their way, but will they

stay outa mine? Why my father told me once—" Roger choked on his food and turned away to the radar screen.

"Well," said Tom after a moment, "what *did* your father tell you?"

"Ah—nothing—not important. But I've got to get a cross-fix on Regulus before we start our little games."

Tom looked puzzled. Here was another of Roger's quick changes of attitude. What was it all about? But there was work to do, so Tom shrugged his shoulders and returned to the control deck. He couldn't forget what Roger had said about a collision, though.

"Excuse me, Captain," said Tom, "but have there been any serious collisions in space between ships?"

"Sure have, Tom," replied Strong. "About twenty years ago, maybe less, there was a whole wave of them. That was before we developed superrebound pulse radar. The ships were faster than the radar at close range."

Strong paused. "Why do you ask?"

Before Tom could answer, there was a sharp warning from the captain.

"Eight o'clock, Corbett!"

Tom ripped open the envelope containing the sealed orders. "Congratulations," he read. "You are in command of the defenders. You have under your command, Squadrons A—B—C—D—E—F. Squadrons G and H are your enemies, and at this moment are on their way to attack Luna City. It is your job to protect it and destroy the enemy fleet. Spaceman's luck! Walters, Commander Space Academy, Senior Officer Solar Guard."

"Roger," yelled Tom, "we've been selected as flagship for the defenders! Get me a course to Luna City!"

"Good for us, spaceboy. I'll give you that course in a jiffy!"

"… *Capella* to *Polaris*—am standing by for your orders…" Tony Richards' voice crackled over the teleceiver. One by one the twenty-three ships that made up the defender's fleet checked in for orders.

"Astro," shouted Tom, "stand by for maneuver—and be prepared to give me every ounce of thrust you can get!"

"Ready, willing and able, Tom," replied Astro. "Just be sure those other space jockeys can keep up with me, that's all!"

Tom turned to Captain Strong.

"What do you think of approaching—"

Strong cut him off. "Corbett, you are in complete command. Take over—you're losing time talking to me!"

"Yes, sir!" said Tom. He turned back to the control board, his face flushed with excitement. Twenty-four ships to maneuver and the responsibility all his own. Via a chart projected on a screen, he studied various approaches to the Moon and Luna City. What would he do if he were in command of the invading fleet? He noticed the Moon was nearing a point where it would be in eclipse on Luna City itself. He studied the chart further, made several notations and turned to the teleceiver.

"Attention—attention—flagship *Polaris* to Squadrons B and C—proceed to chart seven—sectors eight and nine. You will patrol those sectors. Attention Squadrons D and F—proceed to Luna City at emergency space speed, hover at one hundred thousand feet above Luna City spaceport and wait for further orders. Attention, ships three and four of Squadron F—you will proceed to chart six—sectors sixty-eight through seventy-five.

"Attention Squadrons D and F—proceed to Luna City"

Cut all rockets and remain there until further orders. The remainder of

Squadron F—ships one and two—will join Squadron A. Squadron A will stand by for further orders." Tom glanced at the clock and punched the intercom button.

"Have you got that course, Roger?"

"Three degrees on the starboard rockets, seventy-eight degrees on the up-plane of the ecliptic will put you at the corner of Luna Drive and Moonset Land in the heart of Luna City, spaceboy!" answered Roger.

"Get that, Astro?" asked Tom on the intercom.

"All set," replied Astro.

"Attention all ships in Squadron A—this is flagship—code name Starlight—am changing course. Stand by to form up on me!"

Tom turned back to the intercom.

"Power deck, execute!"

At more than five thousand miles an hour, the *Polaris* hurtled toward its destination. One by one the remaining ships moved alongside until all six had their needlelike noses pointed toward the pale satellite of the Moon.

"I'd like to know what your plans are, Tom," said Strong, when the long haul toward the Moon had settled down to a routine. "Just idle curiosity, nothing more. You don't have to tell me if you don't want to."

"Golly, yes," said Tom, "I'd be very grateful for your opinion."

"Well, let's have it," said the captain. "But as for my opinion—I'll listen, but I won't say anything."

Tom grinned sheepishly.

"Well," he began, "if I were in command of the invading fleet, I would strike in force—I'd have to, to do damage with only eight ships. There are three possible approaches to Luna City. One is from the Earth side, using the eclipse corridor of darkness as protection. To meet that, I've stationed two ships at different levels and distances in that corridor so that it would be impossible for an invasion to pass unnoticed."

"You mean, you'd be willing to give up two ships to the invader to have him betray his position. Is that right?"

"Yes, sir. But I've also sent Squadrons B and C to sectors eight and nine on chart seven. So I have a roving squadron to go to their aid, should the invader strike there. And on the other hand, should he manage to get through my outer defense, I have Squadrons D and E over Luna City itself as an inner defense. As for Squadron A, we'll try to engage the enemy first and maybe weaken him; at least reduce the full force of his attack. And then have Squadrons B, C, D and E finish him off, by attack from three different points."

Strong nodded silently. The young cadet was shaping up a defensive strategy with great skill. If he could only follow through on his plans, the invaders of Luna City wouldn't have much chance of success—even if willing to take heavy losses.

Roger's voice came on. "Got a report for you, Tom. From command ship, Squadron B. They've sighted the invaders and are advancing to meet them."

Tom checked his charts and turned to the intercom.

"Send them this message, Roger," he said. "From Starlight, to command ship, Squadrons B and C—approach enemy ships from position of chart nineteen, sections one through ten."

"Right!" said Roger.

Strong smiled. Tom was driving his heaviest force between the invading fleet and its objective—forcing the aggressors into a trap.

Tom gave more crisp orders to his squadrons. He asked Roger for an estimated range, and then, rechecking his position, turned again to the intercom.

"Astro, how much could you get out of this baby by opening the by-pass between the cooling pumps and the reactant chamber? That'd mean feeding the stuff into the motors only half cooled."

Strong turned, started to speak, then clamped his lips together.

"Another quarter space speed, roughly," replied Astro, "about fifteen hundred miles more an hour. Do you want me to do that?"

"No, not now," replied Tom. "Just wanted to know what I could depend on, if I get stuck."

"O.K.," said Astro. "Let me know!"

"Why use emergency speed, Corbett?" asked Strong. "You seem to have your enemy right where you want him now."

"Yes, sir," replied Tom. "And the enemy knows I have him. He can't possibly attack Luna City now. But he can still run away. He can make his escape by this one route."

Tom walked to the chart and ran his finger on a line away from the invader's position into the asteroid belt.

"I don't want him to get away," Tom explained. "And with the extra speed, we can cut him off, force him to turn into a position where the remainder of my fleet would finish him off."

"You'll do this with just the *Polaris*?"

"Oh, no, sir," said Tom. "I'd use the *Arcturus*, *Capella* and the *Centauri*, as well."

"Are you sure those other ships can equal your speed?"

"They've got exactly the same type engines as we have here on the *Polaris*, sir. I'm sure they could—and with perfect safety."

Strong hesitated a moment, started to ask a question, then stopped and walked to the chart screen. He checked the figures. He checked them four times, then turned to Tom with a grin and an outstretched hand.

"I've got to offer my congratulations, Tom. This maneuver would wipe them out. And I've got a notion that you'd come off without the loss of a single ship, plus, and it is a big plus, keeping the invaders more than fifty thousand miles away from their objective!"

The captain turned to the teleceiver. "Rocket cruiser *Polaris* to control tower at Space Academy—"

There was a crackle of static and then the deep voice of Commander Walters boomed from the speaker.

"Spaceport control to *Polaris*. Come in, Steve."

In a few brief sentences, Strong outlined Tom's plan of action to the Academy commander. The commander's face on the teleceiver widened into a grin, then broke out in a hearty laugh.

"What's that, sir?" asked Captain Strong.

"Very simple, Steve. All of us—all the Academy top brass—develop a foolproof test for cadet maneuvers. And then your young Corbett makes us look like amateurs."

"But didn't you expect one side or the other to win?" asked Strong.

"Of course, but not like this. We've been expecting a couple of days of maneuver, with both sides making plenty of mistakes that we could call them on. But here Corbett wraps the whole thing up before we can get our pencils sharpened."

"Better stuff cotton in Corbett's ears before he hears all this," rasped Roger Manning over the intercom. "Or his head'll be too big to go through the hatch."

"Quiet, Manning," came Astro's voice from the power deck. "Your mouth alone is bigger than Tom's head'll ever be."

"Look, you Venusian ape—" began Roger, but Commander Walters' voice boomed out again. His face on the teleceiver screen was serious now.

"Attention! Attention all units! The battle has been fought and won on the chart screen of the rocket cruiser *Polaris*. The Luna City attack has been repelled and the invading fleet wiped out. All units and ships will return to Space Academy at once. Congratulations to all and end transmission."

The commander's face faded from the screen. Captain Strong turned to Tom. "Good work," he said.

He was interrupted by a crackle of static from the teleceiver. A face suddenly appeared on the screen—a man's face, frightened and tense.

"S O S." The voice rang out through the control deck.

"This is an S O S. Space passenger ship *Lady Venus* requests assistance immediately. Position is sector two, chart one hundred three. Emergency. We must have—"

The screen went blank, the voice stopped as though cut off by a knife. Strong frantically worked the teleceiver dials to re-establish contact.

"*Polaris* to *Lady Venus*," he called. "Come in *Lady Venus*. Rocket cruiser *Polaris* calling *Lady Venus*. Come in! Come in!"

There was no answer. The passenger ship's instruments had gone dead.

CHAPTER 13

"*Polaris* to Commander Walters at Space Academy—Come in, Commander Walters!" Captain Strong's voice was urgent in the teleceiver.

"Just worked up an assumed position on the *Lady Venus*," said Roger over the intercom. "I think she's bearing about seventeen degrees to port of us, and about one-twenty-eight on the down-plane of the ecliptic."

"O.K., Roger," said Tom. "Captain Strong's trying to reach Commander Walters now." He made a quick mental calculation. "Golly, Roger—if you've figured it right, we're closer to the *Lady Venus* than anyone else!"

The teleceiver audio crackled.

"Commander Walters at Space Academy to Captain Strong on the *Polaris*. Come in, Steve!"

"Commander!" Strong's voice sounded relieved. "Did you get that emergency from the *Lady Venus*—the S O S?"

"Yes, we did, Steve," said the commander. "How far away from her are you?"

Without a word, Tom handed Strong the position that Roger had computed. Strong relayed the information to the commander.

"If you're that close, go to her aid in the *Polaris*. You're nearer than any Solar Guard patrol ship and you can do just as much."

"Right, sir," replied Steve. "I'll report as soon as I get any news. End transmission!"

"Spaceman's luck, end transmission!" said the commander.

"Have you got a course for us, Roger?" asked Strong.

"Yes, sir!"

"Then let's get out of here. I have a feeling there's something more than just the usual emergency attached to that S O S from the *Lady Venus*."

In twenty seconds the mighty cruiser was blasting through space to the aid of the stricken passenger ship.

"Better get the emergency equipment ready, Tom," said Strong. "Space suits for the four of us and every spare space suit you have on the ship. Never can tell what we might run into. Also the first-aid surgical kit and every spare oxygen bottle. Oh, yeah, and have Astro get both jet boats ready to blast off immediately. I'll keep trying to pick them up again on the teleceiver."

"Yes, sir," replied Tom sharply.

"What's going on up there?" asked Astro, when Tom had relayed the orders from Captain Strong. Tom quickly told him of the emergency signal from the

Lady Venus.

"*Lady—Venus—*" said the big cadet, rolling the name on his tongue, "I know her. She's one of the Martian City—Venusport jobs—an old-timer. Converted from a chemical burner to atomic reaction about three years ago!"

"Any ideas what the trouble might be?" asked Tom.

"I don't know," replied Astro. "There are a hundred and fifty things that could go wrong—even on this wagon and she's brand new. But I wouldn't be surprised if it was on the power deck!"

"And what makes you think so?" asked Tom.

"I knew a spaceman once that was on a converted tub just like the *Lady Venus* and he had trouble with the reaction chamber."

"Wow!" exclaimed Tom. "Let's hope it isn't that now!"

"You can say that again," said Astro grimly. "When this stuff gets out of control, there's very little you can do with it, except leave it alone and pile out!"

The *Polaris*, rocketing through space at full space speed, plunged like a silver bullet through the vastness of the black void, heading for what Strong hoped to be the *Lady Venus*. Tom prepared the emergency equipment, doubling all the reserves on the oxygen bottles by refilling the empties he found on the ship and making sure that all space suits were in perfect working order. Then he opened the emergency surgical kit and began the laborious task of examining every vial and drug in the kit to acquaint himself with what there was to work with just in case. He brought all the stores of jelly out for radiation burns and finally opened a bottle of special sterilization liquid with which to wipe all the instruments and vials clean. He checked the contents of the kit once more, and, satisfied that everything was as ready as he could make it, he went up to the control deck.

"Any other message from them yet, sir?" asked Tom.

"Nothing yet," answered Strong. "If I could pick them up on the teleceiver, maybe they could tell us what the trouble is and then we could more or less be prepared to help them." He bent over the teleceiver screen and added grimly, "If there is anything left to help!"

"Radar deck to control deck!" Roger's voice was tense. "I think I've picked them up on the radar scanner, Captain Strong!"

"Relay it down here to control-deck scanner, Manning," ordered Strong.

"Ummmh!" murmured the captain when the screen began to glow. "I'm pretty sure that's her. Here's that assumed position Roger worked up, Tom. Check it against this one here on the scanner."

Tom quickly computed the position of the object on the scanner and compared it to the position Roger had given them previously.

"If Roger's positioning was correct, sir," said Tom, "then that's the *Lady Venus*. They both check out perfectly!"

Strong, bent over the radar scanner, didn't answer. Finally he turned around and flipped off the scanner. "That's her," he announced. "Congratulations,

Roger. You hit it right on the nose!"

"How shall we approach her, sir?" asked Tom.

"We'd better wait until she sends up her flares."

"You mean the identification flares for safety factors?"

"That's right," replied Strong. "A white flare means it's all right to come alongside and couple air locks. A red one means to stand off and wait for instructions." Strong turned to the intercom.

"Control deck to power deck. Reduce thrust to one quarter space speed!"

"Power deck, aye," answered Astro.

"We'll wait until we're about two miles away from her and then use our braking jets in the bow of the ship to bring us within a few thousand feet of her," commented Strong.

"Yes, sir," said Tom.

"Work up an estimated range, Roger," said Strong, "and give me a distance on our approach."

"Aye, aye, sir," Roger replied. "Objective four miles away now, sir."

"When we hit three miles," said Strong to Tom, "have Astro stand by the forward braking jets."

"Aye, sir," said Tom.

"Three-and-a-half miles," said Roger a few moments later. "Closing in fast. *Lady Venus* looks like a dead ship."

"That could only mean one thing," said Strong bitterly. "There has been a power-deck failure of some sort."

"Three miles to objective, sir," reported Roger. "I think I can pick her up on the teleceiver now, but only one way, from us to her."

"All right," said Strong, "see what you can do."

In a few moments the teleceiver screen glowed and then the silver outline of the *Lady Venus* appeared on the screen.

"I don't see any damage to her hull," said Strong half to himself. "So if it was an explosion, it wasn't a bad one."

"Yes, sir," said Tom. "Shall I stand by with the flares?"

"Better send up a yellow identification flare, identifying us as the Solar Guard. Let them know who we are!"

Tom turned to the yellow button on his left and pressed it. Immediately a white flash resembling a meteor appeared on the teleceiver screen.

"There should be an answer soon," said Strong.

"Three thousand yards to objective," reported Roger.

"Fire braking rockets one half," ordered Strong.

Tom relayed the order to Astro and made the necessary adjustments on the control panel.

"Stern drive rockets out," ordered Strong.

Once again Tom relayed the message to Astro and turned to the control board.

"Cut all rockets!" ordered Strong sharply.

The great ship, slowed by the force of the braking rockets, became motionless in space a bare five hundred yards from the *Lady Venus*.

"They should be sending up their safety-factor flare soon," said Strong. "Keep trying to raise them on the teleceiver, Roger."

Strong was peering through a crystal port directly at the ship hanging dead in space opposite them. There wasn't any sign of life. Tom stepped to the side of Steve Strong and looked out at the crippled passenger ship.

"Why don't we go aboard, sir?" asked Tom.

"We'll wait a little longer for the flare. If we don't get it soon—"

"There it is, sir!" shouted Tom at Strong's side.

From the flare port near the nose of the commercial ship, a ball of fire streaked out.

"Red!" said Strong grimly, "That means we can't go alongside. We'll have to use jet boats."

"Captain Strong," shouted Roger from the radar deck, "they're signaling us with a small light from the upper port on the starboard side!"

"Can you read it?" asked Strong quickly.

"I think so, sir. They're using standard space code, but the light is very dim."

"What do they say?"

"… reaction… chamber—" said Roger slowly as he read the blinking light, "… radiation… leaking around… baffle… all… safe…" Roger stopped. "That's all, sir. I couldn't get the rest of it."

Strong turned to the intercom. "Astro, get the jet boats ready to blast off immediately. Roger, send this message. 'Am coming aboard. Stand by to receive me on your number-one starboard jet-boat catapult deck, signed, Strong, Captain, Solar Guard.'"

"Yes, sir!" replied Roger.

"Get into your space suit, Tom, and give Astro a hand with the jet boats. I have to get a message back to Space Academy and tell them to send out help right away."

"Aye, sir," said Tom.

"Roger," said Strong, "stand by to record this message for the teleceiver in case Space Academy should call our circuit while we're off the ship."

"All set, sir," came the reply from the radar deck.

"O.K.—here goes—Captain Steve Strong—Solar Guard—am boarding passenger ship *Lady Venus*. Secondary communications signal message received indicates it is power-deck failure. Am taking cadets Corbett, Manning and Astro and boarding same at"—he paused and glanced at the clock—"thirteen hundred fifty one hours!"

"That all, sir?" asked Roger.

"That's it. Get that set on the open circuit for any one calling us, then climb into your space suit!"

In a matter of minutes, the four spacemen of the *Polaris* crew were making

last-minute adjustments on their space suits. Astro picked up his heavy belt of tools and strapped them around his waist.

"What's that for, Astro?" asked Strong. "They'll have tools aboard the ship if we need them."

"If that lead baffle in the reaction chamber has worked loose, sir, the odds are ten to one that the control chamber is flooded with radiation. And if it is, the tools are probably so hot you couldn't use them."

"That's good thinking, Astro," complimented Strong. He turned to Tom and Roger and checked their suits and the oxygen supply and feeder valves on their backs. He then turned his back while Tom checked his, and Roger adjusted Astro's.

"All right, turn on your communicators and test them," ordered Strong.

One by one the boys flipped on the switch of the portable spacephones in their fish-bowl helmets and spoke to each other. Strong indicated that he was satisfied and turned toward the jet-boat catapult deck, the three boys following him in single file.

"Astro, you and Roger take number-one boat," said Strong. "Tom and I will take number two." His voice had a harsh metallic tone through the headset spacephones.

Roger hurried along with Astro to the number-one boat and climbed inside.

"Jet boat has its own oxygen system," said Astro to Roger. "Better make use of it while we're in here and save our suits' supplies."

"Good idea," said Roger. He locked the clear plastic airtight covering of the jet boat and began flicking at the control buttons.

"Strap in, you Venusian hick. Here we go!" Roger shoved a lever at his side, making the jet-boat deck airtight from the rest of the *Polaris*, and then, by pressing a button on the simple control board, a section of the *Polaris*' hull slipped back, exposing them to empty space.

The controls of a jet boat were simplicity itself. A half-moon wheel for guiding, up, down and either side, and two pedals on the floor, one for going and one for stopping. Roger stepped on the "Go" pedal and the small ship flashed out into the darkness of space.

Almost immediately on the opposite side of the *Polaris*, Captain Strong and Tom in the second boat shot away from the rocket cruiser and both boats headed for the stricken spaceship.

CHAPTER 14

The hatch clanked shut behind them. Inside the huge air lock of the *Lady Venus*, Tom, Roger, Astro and Captain Strong waited for the oxygen to equal the pressure in their space suits before removing their fish-bowl space helmets.

"O.K., sir," said Tom, "pressure's equal."

Strong stepped to the hatch leading to the inside of the ship and pushed hard. It slid to one side.

"How many jet boats do you have?" was the first thing Strong heard as he stepped through the door to the interior of the passenger ship.

"Al James!" cried Manning. "So this is your tub?"

The startled young skipper, whom Tom, Roger and Astro had met in Atom City, turned to face the blond-headed cadet.

"Manning!" he gasped.

"What's your trouble, skipper?" asked Strong of the young spaceship captain.

Before James could answer there was a sudden clamor from beyond the next hatch leading to the main passenger cabin. Suddenly the hatch was jerked open and a group of frightened men and women poured through. The first to reach Strong, a short fat man with a moonface and wearing glasses, began to jabber hysterically, while clinging to Strong's arm.

"Sir, this ship is going to blow up any moment. You've got to save us!" He turned to face Al James. "And he refused to allow us to escape in the jet boats!" He pointed an accusing finger at the young skipper as the other passengers loudly backed him up.

"Just a moment," snapped Strong. "There's a Solar Guard rocket cruiser only five hundred yards away, so take it easy and don't get hysterical. No one is going to get hurt if you keep calm and obey orders!" He turned to James. "What's the trouble, skipper?"

"It's the reaction chamber. The lead baffle around the chamber worked loose and flooded everything with radiation. Now the mass in number-three rocket is building and wildcatting itself. If it gets any higher, it'll explode."

"Why didn't your power-deck man dump the mass?" asked Strong.

"We didn't know it was wildcatting until after he had tried to repair it. And he didn't tighten the bolts enough to keep it from leaking radiation." The young skipper paused. "He lived long enough to warn us, though."

"What's the Geiger count on the radiation?" asked Strong.

"Up to twelve thirty-two—about ten minutes ago," answered James. "I pulled everybody out of the power deck and cut all energy circuits, including the energizing pumps. We didn't have any power so I had to use the combined juice of the three jet boats to send out the emergency signal that you picked up." He turned to face the little man with the glasses. "I had a choice of either saving about fifteen passengers on the jet boats, and leaving the others, or take a chance on saving everybody by using the power to send out a message."

"Ummmmh," said Strong to himself. He felt confidence in a young spaceman who would take a decision like that on himself. "What was that Geiger count again?" he asked.

"Must be better than fourteen hundred by now," answered James.

Strong made a quick decision.

"All right," he said, tight-lipped, "abandon ship! How many passengers?"

"Seventeen women and twenty-three men including the crew," replied James.

"Does that include yourself?" asked Strong.

"No," came the reply.

Strong felt better. Any man who would not count himself on a list to survive could be counted on in any emergency.

"We'll take four women at a time in each jet boat first," said Strong. "James, you and I will operate the jet boats and ferry the passengers to the *Polaris*. Tom, you and Roger and Astro get everybody aboard the ship ready to leave."

"Yes, sir," said Tom.

"We haven't much time. The reaction mass is building fast. Come on, James, we have to rip out the seats in the jet boats to get five people in them." Strong turned back into the jet-boat launching well.

"May I have the passenger lists, Captain?" asked Tom, turning to James. The young skipper handed him a clip board with the names of the passengers and crew and followed Strong.

"We will abandon ship in alphabetical order," announced Tom. "Miss Nancy Anderson?"

A young girl about sixteen stepped forward.

"Just stand there by the hatch, Miss," said Tom. He glanced at the next name. "Miss Elizabeth Anderson?" Another girl, looking very much like the first, stepped forward and stood beside her sister.

"Mrs. John Bailey?" called Tom.

A gray-haired woman of about sixty stepped forward.

"Pardon me, sir, but I would rather remain with my husband, and go later with him."

"No—no, Mary," pleaded an elderly man, holding his arm around her shoulder. "Go now. I'll be all right. Won't I, sir?" He looked at Tom anxiously.

"I can't be sure, sir," said Tom. He found it difficult to control his voice as he looked down at the old couple, who couldn't weigh more than two hundred pounds between them.

"I'm going to stay," said the woman firmly.

"As you wish, Madam," said Tom. He looked at the list again. "Mrs. Helen Carson?"

A woman about thirty-five, carrying a young boy about four years old, stepped out and took her place beside the two sisters.

In a moment, the first eight passengers were assembled into two groups, helped into space suits, with a special portable suit for the little boy, and loaded in the jet boats. The red light over the hatch glowed, then went out. The first load of passengers had left the *Lady Venus*.

"They're pretty jumpy," Roger whispered, nodding toward the remaining passengers.

"Yeah," answered Tom. "Say, where's Astro?"

"I don't know. Probably went to take a look at the jet boats to see if one could be repaired so we'd have a third ferry running."

"Good idea," said Tom. "See if you can't cheer these people up, Roger. Tell them stories or sing songs—or better yet, get them to sing. Try to make them forget they're sitting on an atom bomb!"

"I can't forget it myself," said Roger. "How can I make them forget it?"

"Try anything. I'll go see if I can't give Astro a hand!"

Roger turned to face the assembled passengers and smiled. All around him in the main passenger lounge, the frightened men and women sat huddled together in small groups, staring at him, terror in their eyes.

"Ladieeees and Gentlemen," began Roger. "You are now going to be entertained by the loudest, corniest and most miserable voice in the universe. I'm going to *sing*!"

He waited for a laugh, but there was only a slight stir as the passengers shifted nervously in their seats.

Shrugging his shoulders, Roger took a deep breath and began to sing. He only knew one song and he sang it with gusto.

"From the rocket fields of the Academy
To the far-flung stars of outer space,
We're Space Cadets training to be…"

On the lower deck of the passenger ship, Tom smiled as he faintly heard his unit-mate's voice. He made his way to the jet-boat deck of the *Lady Venus* and opened the hatch.

"Hey, Astro," he called. There wasn't any answer.

He stepped inside and looked around the empty deck. Walking over to one of the jet boats, he saw evidence of Al James's attempts to send out emergency signal messages. He called again. "Hey, Astro—where are you?"

Still no answer. He noticed that one of the jet boats was missing. There were three still on the deck, but an empty catapult for the fourth made Tom think that Astro might have repaired the fourth and taken it out in space for a test. The light over the escape hatch indicated that someone had gone out. It was odd, thought Tom, for Astro to go out alone. But then he shrugged, remembering how Astro could lose himself in his work and forget everything but the job at hand. He climbed back to the passenger deck.

When Tom opened the hatch to the main lounge, the sight that filled his eyes was so funny that, even in the face of danger, he had to laugh. Roger, with his hands clasped behind his back, was down on his knees trying to push a food pellet across the deck with his nose. The whole passenger lounge echoed with hysterical laughter.

Suddenly the laughter was stopped by the sound of the bell over the air-lock hatch. Strong and James had returned to ferry more passengers to the *Polaris*. Immediately the fun was forgotten and the passengers crowded around for the roll call.

"Where's Astro?" asked Strong, as he reappeared in the lounge.

"He's down on the jet-boat deck, sir, trying to fix another one," replied Tom. "I think he's out testing one now."

"Good," said Strong. "How're they taking it?" He indicated the passengers.

"Roger's been keeping them amused with games and songs, sir," said Tom proudly.

"They'll need it. I don't mind telling you, Corbett," said Strong, "it's a wonder to me this tub hasn't blown up already."

In less than a half hour, the forty passengers and crewmen of the *Lady Venus* were transferred in alphabetical order to the waiting *Polaris*. Roger kept up a continual line of patter and jokes and stories, making a fool of himself, but keeping the remaining passengers amused and their minds off the dangers of the rapidly building reaction mass.

"Just one passenger left," said Strong, "with myself and you three. I think we can squeeze five in that jet boat and get off here."

"That's for me," said Roger. "I'm the only man in the whole universe that's ever played to a packed house sitting on top of an atomic bomb!"

"All right, Barrymore," said Strong, "get aboard!"

"Say," asked Tom, "where's Astro?"

"I don't know," replied Roger. "I thought you went to find him half an hour ago!"

"I did," said Tom, "but when I went to the jet-boat deck, one was missing. So I figured he had fixed one and taken it out for a test."

"Then he's probably outside in space now!" said Strong. Suddenly the Solar Guard captain caught himself. "Wait a minute! How many jet boats were on the deck, Corbett?"

"Three, sir."

"Then Astro is still aboard the ship," said Strong. "He couldn't have taken a

boat. James told me he couldn't repeat the message he sent out because he only had the power of *three* jet boats. One was damaged and left behind at Atom City!"

"By the rings of Saturn," said Roger, "a coupla million miles from home, sitting on an atomic bomb and that big Venusian hick decides to play hide-and-seek!"

"Never mind the cracks," said Strong. "We've got to find him!"

"Captain," said the little man with the round face and glasses who had first spoken to Strong when he came aboard, "just because my name happens to be Zewbriski, and I have to be the very last to get on a jet boat, I don't see why I have to wait any longer. I demand to be taken off this ship immediately! I refuse to risk my life waiting around for some foolish cadet!"

"That foolish cadet, Mr. Zewbriski," said Strong coldly, "is a human being like you and we don't budge until we find him!"

At that moment the bell began to ring, indicating that the outer hatch to the air lock was opening.

"By the craters of Luna," said Tom, "that must be Astro now!"

"But if it is," said Roger, "how did he get out there?"

From behind them, the hatch to the inner air lock opened and Al James stepped through.

"Captain Strong," he said excitedly, "you've got to come quickly. Some of the crewmen have broken into your arms locker and taken paralo-ray guns. They threaten to leave you here if you don't return to the ship within five minutes. They're afraid the *Venus* might blow up and damage the *Polaris* at this close range." The young skipper, his red-brown uniform torn and dirty, looked at the Solar Guard captain with wild-eyed desperation.

"They can't leave us here," whimpered Zewbriski. "We'll all be blown to bits!"

"Shut up!" barked Strong. He turned to Tom and Roger. "I can do one of two things," he said. "I can order you to return to the *Polaris* now, with James and myself, or you can volunteer to stay behind and search for Astro."

Without looking at Roger, Tom answered, "We'll stay, sir. And we won't have to search for him. I think I know where he is."

"Now that I think about it," replied Strong, "I guess there is only one place he could be."

"Yes, sir," said Tom, "down on the power deck trying to save this wagon! Come on, Roger! Let's get him!"

CHAPTER 15

"What's the reading on the Geiger counter now?" asked Tom.

Roger looked down at the face of the radioactive measuring device and answered, "She's been dropping for the last five minutes, Tom. Looks like the mass in number three is cooling off. Fourteen hundred and ten now."

"That's not fast enough," said Astro, straightening up from tightening a nut on the lead baffle. "She's still plenty hot. That mass should have been dumped out of the rocket exhaust right away. Now the whole tube control box is so hot with radiation, it'd burn you to a crisp if you opened the hatch."

"Good thing you brought along those tools from the *Polaris*," said Tom.

"Yeah, greaseball," said Roger, "you used your head for once. Now let's see you use it again and pile out of this hunk of junk!"

"Fifteen hundred on the counter is the danger mark, Roger, and as long as we keep it under that, I'm going to try and save this wagon!" replied Astro.

"Why? To get yourself a Solar Medal?" asked Roger sarcastically.

"What do you think made this tub act up like this, Astro?" asked Tom, ignoring Roger's remark.

"Using special reactant feed, Tom," replied Astro. "This is a converted chemical burner—with an old-type cooling pump. It's touchy stuff."

"Well, couldn't we drive boron rods into the mass and slow down the reaction?" asked Tom.

"No, Tom," answered Astro, "the control for the rods are inside the tube control box. We can't reach it."

There was a sudden loud ticking from the Geiger counter.

"Astro!" cried Roger. "The mass is building!"

"Here, lemme see!" shouted Astro. He took the instrument in his big hand and watched the clocklike face intently.

"… fourteen hundred thirty—fourteen hundred fifty—fourteen hundred seventy—" He faced his unit-mates. "Well, that does it. The mass is maintaining a steady reaction without the energizing pumps. It's sustaining itself!"

"But how is that possible?" asked Tom.

"It's one of those freaks, Tom. It's been known to happen before. The fuel is just hot enough to sustain a steady reaction because of its high intensity. Once that baffle worked loose, the mass started wildcatting itself."

"And if it doesn't stop?" asked Roger tensely.

"It'll reach a point where the reaction comes so fast it'll explode!"

"Let's pile out of here!" said Roger.

The three boys made a dash for their space suits and the jet boat. Inside the air lock, they adjusted their oxygen valves and waited for pressure to equalize so they could blast off.

"Blast it," said Astro, "there must be some way to get to that rocket tube and dump that stuff!"

"Impossible, Astro," said Roger. "The release controls are in the control box, and with all that radiation loose, you wouldn't last half a minute!"

Tom walked over to the valve that would open the outside hatch.

"Wonder how Captain Strong is making out with those tough babies on the *Polaris*?" asked Tom.

"I don't know," replied Roger, "but anything would be better than sitting around waiting for this thing to blow up!"

"Ah—stop griping," said Astro, "or I'll shove you up a rocket tube and blast you from here all the way back to Atom City!"

"Hey, wait a minute!" shouted Tom. "Astro, remember the time we were on the ground crew as extra duty and we had to overhaul the *Polaris*?"

"Yeah, why?"

"There was one place you couldn't go. You were too big, so I went in, remember?"

"Yeah, the space between the rocket tubes and the hull of the ship. It was when we were putting in the new tube. So what?"

"So this!" said Tom. "When they converted this tub, they had standard exhausts, so it must have the same layout as the *Polaris*. Suppose I climb in the main exhaust, between the tube and the outer hull, and cut away the cleats that hold the tube to the ship?"

"Why, then everything would come out in one piece!" Astro's face lit up. "Reactant mass, tube, control box—the works!"

"Say, what are you two guys talking about?" asked Roger.

"Saving a ship, Roger," said Tom. "Dumping the whole assembly of the number-three rocket!"

"Ah—you're space happy!"

"Maybe," said Tom, "but I think it's worth trying. How about it, Astro?"

"O.K. by me, Tom," replied Astro.

"Good. You get the cutting torches rigged, Astro. Roger, you give him a hand and keep your eye on the counter. Then feed the torches to me when I get inside the tube. I'm going outside to get rid of a bad rocket and save a five-million-credit spaceship!"

Before Astro or Roger could protest, Tom opened the hatch and began to climb out on the steel hull toward the rocket tubes, main exhaust.

His magnetic-soled shoes gripping the smooth steel hull, the cadet made his way aft to the stern of the ship and began the climb down around the huge firing tubes and into the tubes themselves.

"Hey, Astro," he yelled into the spacephone, "I'm inside the tubes. How

about those torches?" The cadets had adjusted the wave length so that all could hear what was said.

"Take it easy, spaceboy," said Roger, "I'm leaving the hatch now. You and your fatheaded friend from Venus are so hopped up for getting a Solar Medal —"

"Knock it off, Manning!" said Astro from inside the ship. "And for your information, I don't want a medal. I don't want anything except for you to stop griping!"

Roger reached the end of the ship and began to climb down inside the tube where Tom was waiting for him.

"O.K., spaceboy," said Roger, "here're your cutting torches." He started moving back. "I'll see you around. I don't mind being a little hero for saving people and all that stuff. But not for any ship. And the odds against a big hero staying alive are too big!"

"Roger, wait," shouted Tom. "I'll need…" And then the curly-headed cadet clamped his teeth together and turned back to the task at hand.

He made adjustments on the nozzle of the cutting torch, and then, focusing his chest light, called to Astro.

"O.K., Astro," he said, "shoot me the juice!"

"Coming up, Tom!" answered Astro. "And wait till I get my hands on that Manning! I'm going to smear that yellow space crawler from one corner of the universe to another!"

"Never mind the talk," snarled Roger, who at the moment was re-entering the tube. "Just get that juice down to this torch and make it fast!"

Tom turned to see Roger crawling back into the tube and adjusting a cutting torch.

"Glad to have you aboard, Roger," said Tom with a smile that Roger could not see in the darkness of the tube. The two boys went to work.

Suddenly the torches came to life. And immediately Tom and Roger began to cut away at the cleats that held the tube lining to the skin of the ship. Steadily, the cadets worked their way up toward the center of the ship, cutting anything that looked as though it might hold the giant tube to the ship.

"Boy," said Tom, "it's getting hot in here!"

From inside the ship, Astro's reassuring voice came back in answer. "You're getting close to the reactant-mass chamber. The last cleat is up by one of the exhaust gratings. Think you can last it?"

"Well, if he can't," snarled Roger, "he's sure to get that medal anyway!" He inched up a little. "Move over, Corbett, I'm skinnier than you are, and I can reach that cleat easier than you can."

Roger slipped past Tom and inched his way toward the last cleat. He pulled his torch up alongside and pulled the trigger. The flame shot out and began eating the steel. In a moment the last cleat was cut and the two boys started their long haul down the tube to the outside of the ship.

As they walked across the steel surface, back to the air lock, Tom stuck out

his hand.

"I'm glad you came back, Roger."

"Save it for the boys that fall for that stuff, Corbett," said Roger sarcastically. "I came back because I didn't want you and that Venusian hick to think you're the only ones with guts around here!"

"No one has ever accused you of not having guts, Roger."

"Ah—go blast your jets," snarled Roger.

They went directly to the power deck where Astro was waiting for them, the Geiger counter in his hand.

"All set to get rid of the rotten apple?" he asked with a smile.

"All set, Astro," said Tom. "What's the count?"

"She seems to have steadied around fourteen hundred ninety—and believe me, the ten points to the official danger mark of fifteen hundred is so small that we could find out where the angels live any moment now!"

"Then what're we waiting for," said Tom. "Let's dump that thing!"

"How?" snarled Roger.

Tom and Astro looked at him bewilderedly. "What do you mean 'how'?" asked Astro.

"I mean how are you going to get the tube out of the ship?"

"Why," started Tom, "there's nothing holding that tube assembly to the ship now. We cut all the cleats, remember? We can jettison the whole unit!"

"It seems to me," drawled Roger lazily, "that the two great heroes in their mad rush for the Solar Medal have forgotten an unwritten law of space. There's no gravity out here—no natural force to pull or push the tube. The only way it could be moved is by the power of thrust, either forward or backward!"

"O.K. Then let's push it out, just that way," said Astro.

"How?" asked Roger cynically.

"Simple, Roger," said Tom, "Newton's Laws of motion. Everything in motion tends to keep going at the same speed unless influenced by an outside force. So if we blasted our nose rockets and started going backward, everything on the ship would go backward too, then if we reversed—"

Astro cut in, "Yeah—if we blasted the stern rockets, the ship would go forward, but the tube, being loose, would keep going the other way!"

"There's only one thing wrong," said Roger. "That mass is so hot now, if any booster energy hit it, it would be like a trigger on a bomb. It'd blow us from here to the next galaxy!"

"I'm willing to try it," said Tom. "How about you, Astro?"

"I've gone this far, and I'm not quitting now."

They turned to face Roger.

"Well, how about it, Roger?" asked Tom. "No one will think you're yellow if you take the jet boat and leave now."

"Ah—talk again!" grumbled Roger. "We always have to talk. Let's be original for a change and just do our jobs!"

"All right," said Tom. "Take an emergency light and signal Captain Strong. Tell him what we're going to do. Warn him to stay away—about two hundred miles off. He'll know if we're successful or not within a half hour!"

"Yeah," said Roger, "then we'll send him one big flash to mean we failed! *Bon voyage!*"

Fifteen minutes later, as the *Lady Venus* drifted in her silent but deadly orbit, Tom, Roger and Astro still worked feverishly as the Geiger counter ticked off the increasing radioactivity of the wildcatting reaction mass in number-three rocket tube.

"Reading on the counter still's going up, Astro," warned Roger. "Fifteen-O-five."

"Hurry it up, Astro," urged Tom.

"Hand me that wrench, Tom," ordered Astro. The big cadet, stripped to the waist, his thick arms and chest splattered with grease and sweat, fitted the wrench to the nut and applied pressure. Tom and Roger watched the muscles ripple along his back, as the big Venusian pitted all of his great strength against the metal.

"Give it all you've got," said Tom. "If we do manage to jettison that tube, we've got to keep this part of the power deck airtight!"

Astro pulled harder. The veins standing out on his neck. At last, easing off, he stood up and looked down at the nut.

"That's as tight as I can get it," he said, breathing heavily.

"Or anyone else," said Tom.

"All the valve connections broken?" asked Astro.

"Yep," replied Roger. "We're sealed tight."

"That's it, then," said Tom. "Let's get to the control deck and start blasting!"

Astro turned to the power-deck control board and checked the gauges for the last time. From above his head, he heard Tom's voice over the intercom.

"All your relays to the power deck working, Astro?"

"Ready, Tom," answered Astro.

"Then stand by," said Tom on the control deck. He had made a hasty check of the controls and found them to be similar enough to those on the *Polaris* so that he could handle the ship. He flipped the switch to the radar deck and spoke into the intercom.

"Do we have a clear trajectory fore and aft, Roger?"

"All clear," replied Roger. "I sent Captain Strong the message."

"What'd he say?"

"The rebellion wasn't anything more than a bunch of badly scared old men. Al James just got hysterical, that's all."

A low muted roar pulsed through the ship

"What did he have to say about this operation?"

"I can't repeat it for your young ears," said Roger.

"So bad, huh?"

"Yeah, but not because we're trying to save the ship."

"Then why?" asked Tom.

"He's afraid of losing a good unit!"

Tom smiled and turned to the control board. "Energize the cooling pumps!" he bawled to Astro over the intercom.

The slow whine of the pumps began to build to a shrieking pitch.

"Pumps in operation, Tom," said Astro.

"Cut in nose braking rockets," ordered Tom.

A low muted roar pulsed through the ship.

"Rockets on—we're moving backward, Tom," reported Astro.

And then suddenly Astro let out a roar. "Tom, the Geiger counter is going wild!"

"Never mind that now," answered Tom. "Sound off, Roger!" he yelled.

"Ship moving astern—one thousand feet a second—two thousand—four thousand—"

"I'm going to let her build to ten, Roger," yelled Tom. "We've only got one chance and we might as well make it a good one!"

"Six thousand!" yelled Roger. "Seven thousand!"

"Astro," bellowed Tom, "stand by to fire stern rockets!"

"Ready, Tom," was Astro's reply.

"Eight thousand," warned Roger. "Spaceman's luck, fellas!"

The silver ship moved through space away from the *Polaris*.

"Nine thousand," reported Roger. "And, Astro, I really love ya!"

"Cut nose braking rockets!" ordered Tom.

There was a sudden hush that seemed to be as loud as the noise of the rockets. The huge passenger ship, *Lady Venus*, was traveling through space as silent as a ghost.

"Nine thousand five hundred feet a second," yelled Roger.

"Stand by, Astro, Roger! Hang on tight, and spaceman's luck!"

"Ten thousand feet a second!" Roger's voice was a hoarse scream.

"*Fire stern rockets!*" bawled Tom.

CHAPTER 16

Under the tremendous drive of the stern rockets, the silver ship suddenly hurtled forward as if shot out of a cannon. The dangerous tube slid out of the stern of the ship and was quickly left behind as the *Lady Venus* sped in the opposite direction.

"That's it," yelled Tom, "hold full space speed! We dumped the tube, but we're still close enough for it to blow us from here to Pluto!"

"I tracked it on the radar, Tom," yelled Roger. "I think we're far enough away to miss—"

At that moment a tremendous flash of light filled the radar scanner as the mass exploded miles to the rear of the *Lady Venus*.

"There it goes!" shouted Roger.

"Great jumping Jupiter," yelled Tom, "and we're still in one piece! We did it!"

From the power deck, Astro's bull-like roar could be heard through the whole ship.

"Gimme an open circuit, Tom," said Astro. "I want to operate the air blowers down here and try to get rid of some of that radiation. I have to get into the control chamber and see what's going on."

Tom flipped a switch on the board and set the ship on automatic flight. Then, turning to the teleceiver, he switched the set on.

"*Lady Venus* to *Polaris*—" said Tom, "come in, *Polaris*—come in!"

"… Strong here on the *Polaris*!" the officer's voice crackled over the speaker. "By the rings of Saturn, I should log you three space-brained idiots for everything in the book!" Strong's face gradually focused on the teleceiver screen and he stared at Tom coldly. "That was the most foolish bit of heroics I've ever seen and if I had my way I'd—I'll—well—" The captain's glare melted into a smile. "I'll spend the rest of my life being known as the skipper of the three heroes! Well done, Corbett, it was foolish and dangerous, but well done!"

Tom, his face changing visibly with each change in Strong's attitude, finally broke out into a grin.

"Thank you, sir," said Tom, "but Astro and Roger did as much as I did."

"I'm sure they did," replied Strong. "Tell them I think it was one of the—the—" he thought a moment and then added, "darndest, most foolish things—most—"

"Yes, sir," said Tom, trying hard to control his face. He knew the moment

for disciplining had passed, and that Captain Strong was just overwhelmed with concern for their safety.

"Stand by the air locks, Corbett, we're coming aboard again. We're pretty cramped for space here on the *Polaris*."

Just then Astro yelled up from the power deck.

"Hey, Tom!" he called. "If Captain Strong is thinking about putting those passengers back aboard, I think you'd better tell him about the radiation. I haven't been able to flush it all out yet. And since we only have three lead-lined suits…" He left the statement unfinished.

"I get you, Astro," replied Tom. He turned back to the teleceiver and faced Strong. "Astro says the ship is still hot from radiation, sir. And that he hasn't been able to flush it out with the blowers."

"Ummmmh," mused Strong thoughtfully. "Well, in that case, stand by, Corbett. I'll get in touch with Commander Walters right away."

"Very well, sir," replied Tom. He turned from the teleceiver and climbed up to the radar deck.

"Well, hot-shot," said Roger, "looks like you've made yourself a hero this trip."

"What do you mean by that, Roger?"

"First, you run off with top honors on the space maneuvers, and now you save the ship and have Strong eating out of your hand!"

"That's not very funny, Roger," said Tom.

"I think it is," drawled Roger.

Tom studied the blond cadet for a moment.

"What's eating you, Roger? Since the day you came into the Academy, you've acted like you hated every minute of it. And yet, on the other hand, I've seen you act like it was the most important thing in your life. Why?"

"I told you once, Corbett," said Roger with the sneering air which Tom knew he used when he was on the defensive, "that I had my own special reasons for being here. I'm *not* a hero, Corbett! Never was and never will be. You're strictly the hero type. Tried and true, a thousand just like you all through the Academy and the Solar Guard. Strong is a hero type!"

"Then what about Al James?" asked Tom. "What about that time in Atom City when you defended the Academy?"

"Uh-uh," grunted Roger, "I wasn't defending the Academy. I was just avoiding a fight." He paused and eyed Tom between half-closed lids. "You'll never do anything I can't, or won't do, just as well, Tom. The difference between us is simple. I'm in the Academy for a reason, a special reason. You're here, like most of the other cadets, because you believe in it. That's the difference between you, me and Astro. You believe in it. I don't—I don't believe in anything but Roger Manning!"

Tom faced him squarely. "I'm not going to buy that, Roger! I don't think that's true. And the reasons I don't believe it are many. You have a chip on your shoulder, yes. But I don't think you're selfish or that you only believe in

Manning. If you did, you wouldn't be here on the *Lady Venus*. You had your chance to escape back in the rocket tube, but you *came back*, Roger, and you made a liar out of yourself!"

"Hey, you guys!" yelled Astro, coming up behind them. "I thought we left that stuff back at the Academy?"

Tom turned to face the power-deck cadet. "What's cooking below, Astro? Were you able to get rid of the radiation?"

"Naw!" replied the cadet from Venus. "Too hot! Couldn't even open the hatch. It'll take a special job with the big equipment at the space shipyards. We need their big blowers and antiradiation flushers to clean this baby up."

"Then I'd better tell Captain Strong right away. He's going to get in touch with Commander Walters at the Academy for orders."

"Yeah, you're right," said Astro. "There isn't a chance of getting those people back aboard here now. Once we opened up that outer control deck to dump that tube, the whole joint started buzzing with radioactive electrons."

Tom turned to the ladder leading to the control deck and disappeared through the hatch, leaving Astro and Roger alone.

"What was that little bit of space gas about, Roger?"

"Ah—nothing," replied Roger. "Just a little argument on who was the biggest hero." Roger smiled and waved a hand in a friendly gesture. "Tom won, two to one!"

"He sure handled that control deck like he had been born here, all right," said Astro. "Well, I've got to take a look at those motors. We'll be doing something soon, and whatever it is, we'll need those power boxes to get us where we want to go."

"Yeah," said Roger, "and I've got to get a course and a position." He turned to the chart screen and began plotting rapidly. Down on the control deck, Strong was listening to Tom.

"… and Astro said we'd need the special equipment at the space shipyards to clean out the radiation, sir. If we took passengers aboard and it suddenly shot up—well, we only have the three lead-lined suits to protect us."

"Very well, Corbett," replied Strong. "I've just received orders from Commander Walters to proceed to Mars with both ships. I'll blast off now and you three follow along on the *Lady Venus*. Any questions?"

"I don't have any, sir," Tom said, "but I'll check with Roger and Astro to see if they have any."

Tom turned to the intercom and informed the radar and power-deck cadets of their orders, and asked if there were any questions. Both replied that everything on the ship was ready to blast off immediately. Tom turned back to the teleceiver.

"No questions, sir," reported Tom. "We're all set to blast off."

"Very well, Corbett," said Strong. "I'm going to make as much speed as possible to get these people on Mars. The crew of the *Lady Venus* will take over the radar and power decks."

"O.K., sir, and spaceman's luck!" said Tom. "We'll see you on Mars!"

Tom stood beside the crystal port on the control deck and watched the rocket cruiser *Polaris*' stern glow red from her jets, and then quickly disappear into the vastness of space, visible only as a white blip on the radar scanner.

"Get me a course to Mars, Roger," said Tom. "Astro, stand by to blast off with as much speed as you can safely get out of this old wagon, and stand by for Mars!"

The two cadets quickly reported their departments ready, and following the course Roger plotted, Astro soon had the *Lady Venus* blasting through space, heading for Mars!

Mars, fourth planet in order from the Sun, loomed like a giant red gem against a perfect backdrop of deep-black space. The *Lady Venus*, rocketing through the inky blackness, a dull red glow from her three remaining rockets, blasted steadily ahead to the planet that was crisscrossed with wide spacious canals.

"Last time I was on Mars," said Astro to Tom and Roger over a cup of tea, "was about two years ago. I was bucking rockets on an old tub called the *Space Plunger*. It was on a shuttle run from the Martian south pole to Venusport, hauling vegetables. What a life! Burning up on Venus and then freezing half to death at the south pole on Mars." Astro shook his head as the vivid memory took him back for a moment.

"From what I hear," said Tom, "there isn't much to see but the few cities, the mountains, the deserts and the canals."

"Yeah," commented Roger, "big deal! Rocket into the wild depths of space and see the greatest hunk of wasteland in the universe!"

The three boys were silent, listening to the steady hum of the rockets, driving them forward toward Mars. For four days they had traveled on the *Lady Venus*, enjoying the many luxuries found on the passenger ship. Now, with their destination only a few hours away, they were having a light snack before making a touchdown on Mars.

"You know," said Tom quietly, "I've been thinking. As far back as the twentieth century, Earthmen have wanted to get to Mars. And finally they did. And what have they found? Nothing but a planet full of dry sand, a few canals and dwarf mountains."

"That's exactly what I've been saying!" said Roger. "The only man who ever got anything out of all this was the first man to make it to Mars and return. He got the name, the glory, and a paragraph in a history book! And after that, nothing!" He got up and climbed the ladder to the radar deck, leaving Astro and Tom alone.

Suddenly the ship lurched to one side.

"What's that?" cried Tom.

A bell began to ring. Then another—and then three more. Finally the entire ship was vibrating with the clanging of emergency bells.

Astro made a diving leap for the ladder leading down to the power deck,

with Tom lunging for the control board.

Quickly Tom glanced about the huge board with its many different gauges and dials, searching for the one that would indicate the trouble. His eye spotted a huge gauge. A small light beside it flashed off and on. "By the moons of Jupiter, we've run out of reactant fuel!"

"Tom!—Tom!" shouted Astro from the power deck. "We're smack out of reactant feed!"

"Isn't there any left at all?" asked Tom. "Not even enough to get us into Marsopolis?"

"We haven't enough left to keep the generator going!" said Astro. "Everything, including the lights and the teleceiver, will go any minute!"

"Then we can't change course!"

"Right," drawled Roger. "And if we can't change course, the one we're on now will take us straight into Mars's gravity and we crash!"

"Send out an emergency call right away, Roger," said Tom.

"Can't, spaceboy," replied Roger in his lazy drawl. "Not enough juice to call for help. Or haven't you noticed you're standing in the dark?"

"But how—how could this happen?" asked Tom, puzzled. "We were only going at half speed and using just three rockets!"

"When we got rid of that hot tube back in space," explained Astro grimly, "we dumped the main reactant mass. There isn't a thing we can do!"

"We've got one choice," said Tom hollowly. "We can either pile out now, in space suits and use the jet boat, and hope for someone to pick us up before the oxygen gives out, or we can ride this space wagon right on in. Make up your minds quick, we're already inside Mars's gravity pull!"

There was a pause, then Astro's voice filled the control deck. "I'll ride this baby right to the bottom. If I'm going to splash in, I'll take it on solid ground, even if it is Mars and not Venus. I don't want to wash out in space!"

"That goes for me, too," said Roger.

"O.K.," said Tom. "Here we go. Just keep your fingers crossed that we hit the desert instead of the mountains, or we'll be smeared across those rocks like applesauce. Spaceman's luck, fellas!"

"Spaceman's luck, both of you," said Astro.

"Just plain ordinary luck," commented Roger, "and plenty of it!"

The three boys quickly strapped themselves into acceleration seats, with Tom hooking up an emergency relay switch that he could hold in his hand. He hoped he would remain conscious long enough to throw the switch and start the water sprinkler in case the ship caught fire.

The *Lady Venus* flashed into the thin atmosphere from the void of space and the three cadets imagined that they could hear the shriek of the ship as it cut through the thin air. Tom figured his speed rapidly, and counting on the thinness of the atmosphere, he estimated that it would take eleven seconds for the ship to crash. He began to count.

"… One—two—three—four—five—" he thought briefly of his family and

how nice they had been to him "… six—seven—eight—nine—ten—"

The ship crashed.

CHAPTER 17

"Astro! Roger!" yelled Tom. He opened his eyes and then felt the weight on his chest. A section of the control board had fallen across him pinning his left arm to his side. He reached for the railing around the acceleration chair with his right and discovered he still held the switch for the water sprinkler. He started to flip it on, then sniffed the air, and smelling no trace of smoke, dropped the switch. He unstrapped himself from the acceleration chair with his right hand and then slowly, with great effort, pushed the section of the control board off him. He stood up rubbing his left arm.

"Astro? Roger?!" he called again, and scrambled over the broken equipment that was strewn over the deck. He stumbled over more rubble that was once a precision instrument panel and climbed the ladder leading to the radar deck.

"Roger!" he yelled. "Roger, are you all right?" He pushed several shattered instruments out of the way and looked around the shambles that once had been a room. He didn't see Roger.

He began to scramble through the litter on the deck, kicking aside instruments that were nearly priceless, so delicately were they made. Suddenly a wave of cold fear gripped him and he began tearing through the rubble desperately. From beneath a heavy tube casing, he could see the outstretched arm of Roger.

He squatted down, bending his legs and keeping his back straight. Then gripping the heavy casing on one side, he tried to stand up. It was too much for him. He lifted it three inches and then had to let go.

"Tom! Roger!" Tom heard the bull-like roar of Astro below him and stumbled over to the head of the ladder.

"Up here, Astro," he yelled, "on the radar deck. Roger's pinned under the radar scanner casing!"

Tom turned back to the casing, and looking around the littered deck desperately, grabbed an eight-foot length of steel pipe that had been snapped off like a twig by the force of the crash.

Barely able to lift it, he shoved it with all his strength to get the end of the pipe beneath the casing.

"Here, let me get at that thing," growled Astro from behind. Tom stepped back, half falling out of the Venusian's way, and watched as Astro got down on his hands and knees, putting his shoulder against the case. He lifted it about three inches, then slowly, still balancing the weight on his shoulder,

shifted his position, braced it with his hands and began to straighten up. The casing came up from the floor as the huge cadet strained against it.

"All—right—Tom—" he gasped, "see if you can get a hold on Roger and pull him out!"

Tom scrambled back and grabbed Roger's uniform. He pulled, and slowly the cadet's form slid from beneath the casing.

"All right, Astro," said Tom, "I've got 'im."

Astro began to lower the casing in the same manner in which he had lifted it. He eased it back down to the floor on his knees and dropped it the last few inches. He sat on the floor beside it and hung his head between his knees.

"Are you all right, Astro?" asked Tom.

"Never mind me," panted Astro between deep gasps for breath, "just see if hot-shot is O.K."

Tom quickly ran his hands up and down Roger's arms and legs, his chest, collarbone and at last, with gently probing fingers, his head.

"No broken bones," he said, still looking at Roger, "but I don't know about internal injuries."

"He wasn't pinned under that thing," said Astro at last. "It was resting on a beam. No weight was on him."

"Uh—huh—ahhh—uhhhh," moaned Roger.

"Roger," said Tom gently, "Roger, are you all right?"

"Uh—huh?—Ohhhh! My head!"

"Take it easy, hot-shot," said Astro, "that head of yours is O.K. Nothing—but *nothing* could hurt it!"

"Ooohhhh!" groaned Roger, sitting up. "I don't know which is worse, feeling the way I do, or waking up and listening to you again!"

Tom sat back with a smile. Roger's remark clinched it. No one was hurt.

"Well," said Astro at last, "where do we go from here?"

"First thing I suggest we do is take a survey and see what's left," said Tom.

"I came up from the power deck," said Astro, "all the way through the ship. You see this radar deck?" He made a sweeping gesture around the room that looked like a junk heap. "Well, it's in good shape, compared to the rest of the ship. The power deck has the rocket motors where the master panel should be and the panel is ready to go into what's left of the reactant chamber. The jet boat is nothing but a worthless piece of junk!"

The three boys considered the fate of the jet boat soberly. Finally Astro broke the silence with a question. "Where do you think we are?"

"Somewhere in the New Sahara desert," answered Tom. "I had the chart projector on just before we splashed in, but I can't tell you any more than that."

"Well, at least we have plenty of water," sighed Roger.

"You *had* plenty of water. The tanks were smashed when we came in. Not even a puddle left in a corner."

"Of course it might rain," said Roger.

Tom gave a short laugh. "The last time it rained in this place dinosaurs were roaming around on Earth!"

"How about food?" asked Roger.

"Plenty of that," answered Astro. "This is a passenger ship, remember! They have everything you could ask for, including smoked Venusian fatfish!"

"Then let's get out of here and take a look," said Tom.

The three bruised but otherwise healthy cadets climbed slowly down to the control deck and headed for the galley, where Tom found six plastic containers of Martian water.

"Spaceman, this is the biggest hunk of luck we've had in the last two hours," said Roger, taking one of the containers.

"Why two hours, Roger?" asked Astro, puzzled.

"Two hours ago we were still in space expecting to splash in," said Tom. He opened one of the containers and offered it to Astro. "Take it easy, Astro," said Tom. "Unless we find something else to drink, this might have to last a long time."

"Yeah," said Roger, "a *long* time. I've been thinking about our chances of getting out of this mess."

"Well," asked Astro, "what has the great Manning brain figured out?"

"There's no chance at all," said Roger slowly. "You're wrong, Corbett, about this being midday. It's early morning!" He pointed to a chronometer on the bulkhead behind Astro. "It's still running. I made a mental note before we splashed in, it was eight-O-seven. That clock says nine-O-three. It doesn't begin to get hot here until three o'clock in the afternoon."

"I think you're wrong two ways," said Tom. "In the first place, Captain Strong probably has a unit out looking for us right now. And in the second place, as long as we stay with the ship, we've got shade. That sun is only bad because the atmosphere is thinner here on Mars, and easier to burn through. But if we stay out of the sun, we're O.K. Just sit back and wait for Strong!"

Roger shrugged his shoulders.

"Well," commented Astro with a grin, "I'm not going to sit around waiting for Strong without eating!" He tore open a plastic package of roast-beef sandwiches and began eating. Tom measured out three small cups of Martian water.

"After we eat," suggested Roger, "I think we ought to take a look around outside and try to set up an identification signal."

"That's a good idea," said Tom, "but don't you think the ship itself is big enough for that?"

"Yeah," answered Roger, "I guess you're right."

"Boy!" said Astro. "We sure are lucky to still be able to argue."

"That's about all you can call it. Luck! Spaceman's luck!" said Tom. "The only reason I can figure why we didn't wind up as permanent part of the scenery around here is because of the course we were on."

"How do you figure that?" asked Astro.

"Luckily—and I *mean* luckily, we were on a course that took us smack onto the surface of Mars. And our speed was great enough to resist the gravity pull of the planet, keeping us horizontal with the surface of the desert. We skidded in like a kid does on a sled, instead of coming in on our nose!"

"Well, blast my jets!" said Astro softly.

"In that case," said Roger, "we must have left a pretty long skid mark in back of us!"

"That should be easy to see when the jet scouts come looking for us," commented Astro.

"I wonder if we could rig up some sort of emergency signal so we could send out a relative position?"

"How are you going to get the position?" asked Astro.

"I can give you some sort of position as soon as I get outside and take a sight on the sun," replied Roger.

"Can you do it without your astrogation prism?" asked Astro.

"Navigation, not astrogation, Astro," said Roger. "Like the ancient sailors used on the oceans back on Earth hundreds of years ago. Only thing is, I'll have to work up the logarithms by hand, instead of using the computer. Might be a little rough, but it'll be close enough for what we want."

The three cadets finished the remaining sandwiches and then picked their way back through the ship to the control deck. There, they rummaged through the pile of broken and shattered instruments.

"If we could find just one tube that hasn't been damaged, I think I might be able to rig up some sort of one-lung communications set," said Roger. "It might have enough range to get a message to the nearest atmosphere booster station."

"Nothing but a pile of junk here, Roger," said Tom. "We might find something on the radar deck."

The three members of the *Polaris* unit climbed over the rubble and made their way to the radar deck, and started their search for an undamaged tube. After forty-five minutes of searching, Roger stood up in disgust.

"Nothing!" he said sourly.

"That kills any hope of getting a message out," said Tom.

"By the craters of Luna," said Astro, wiping his forehead. "I didn't notice it before, but it's getting hotter here than on the power deck on a trip to Mercury!"

"Do we have any flares?" asked Roger.

"Naw. Al James used them all," answered Tom.

"That does it," said Roger. "In another couple of hours, when and if anyone shows up, all they'll find is three space cadets fried on the half shell of a spaceship!"

"Listen, Roger," said Tom, "as soon as we fail to check in, the whole Mars Solar Guard fleet will be out looking for us. Our last report will show them we were heading in this direction. It won't take Captain Strong long to figure out

that we might have run out of fuel, and, with that skid mark in the sand trailing back for twenty miles, all we have to do is stick with the ship and wait for them to show up!"

"What's that?" asked Astro sharply.

From a distance, the three cadets could hear a low moaning and wailing. They rushed to the crystal port and looked out on the endless miles of brown sand, stretching as far as the horizon and meeting the cloudless blue sky. Shimmering in the heat, the New Sahara desert of Mars was just beginning to warm up for the day under the bleaching sun. The thin atmosphere offered little protection against the blazing heat rays.

"Nothing but sand," said Tom. "Maybe something is still hot on the power deck." He looked at Astro.

"I checked it before I came topside," said Astro. "I've heard that noise before. It can only mean one thing."

"What's that?" asked Roger.

Astro turned quickly and walked to the opposite side of the littered control deck. He pushed a pile of junk out of the way for a clear view of the outside.

"There's your answer," said Astro, pointing at the port.

"By the rings of Saturn, look at that!" cried Tom.

"Yeah," said Roger, "black as the fingernails of a Titan miner!"

"That's a sandstorm," Astro said finally. "It blows as long as a week and can pile up sand for two hundred feet. Sometimes the velocity reaches as much as a hundred and sixty miles an hour. Once, in the south, we got caught in one, and it was so bad we had to blast off. And it took all the power we had to do it!"

The three cadets stood transfixed as they gazed through the crystal port at the oncoming storm. The tremendous black cloud rolled toward the spaceship in huge folds that billowed upward and back in three-thousand-foot waves. The roar and wail of the wind grew louder, rising in pitch until it was a shrill scream.

"We'd better get down to the power deck," said Tom, "and take some oxygen bottles along with us, just in case. Astro, bring the rest of the Martian water and you grab several of those containers of food, Roger. We might be holed in for a long time."

"Why go down to the power deck?" asked Roger.

"There's a huge hole in the upper part of the ship's hull. That sand will come in here by the ton and there's nothing to stop it," Tom answered Roger, but kept his eyes on the churning black cloud. Already, the first gusts of wind were lashing at the stricken *Lady Venus*.

CHAPTER 18

"You think it'll last much longer?" asked Astro.

"I don't know, old fellow," replied Tom.

"You know, sometimes you can hear the wind even through the skin of the ship," commented Roger.

For two days the cadets of the *Polaris* unit had been held prisoner in the power deck while the violence of the New Sahara sandstorm raged around them outside the ship. For a thousand square miles the desert was a black cloud of churning sand, sweeping across the surface of Mars like a giant shroud.

After many attempts to repair a small generator, Astro finally succeeded, only to discover that he had no means of running the unit. His plan was to relieve the rapidly weakening emergency batteries with a more steady source of power.

While Astro occupied himself repairing the generator, Tom and Roger had slept, but after the first day, when sleep would no longer come, they resorted to playing checkers with washers and nuts on a board scratched on the deck.

"Think it's going to let up soon?" asked Roger.

"They've been known to last for a week or more," said Astro.

"Wonder if Strong has discovered we're missing?" mused Roger.

"Sure he has," replied Tom. "He's a real spaceman. Can smell out trouble like a telemetered alarm system."

Astro got up and stretched. "I'll bet we're out of this five hours after the sand settles down."

The big Venusian walked to the side of the power deck and pressed his ear against the hull, listening for the sound of the wind.

After a few seconds he turned back. "I can't hear a thing, fellas. I have a feeling it's about played itself out."

"Of course," reasoned Tom, "we have no real way of knowing when it's stopped and when it hasn't."

"Want to open the hatch and take a look?" asked Astro.

Tom looked questioningly at Roger, who nodded his head in agreement.

Tom walked over to the hatch and began undogging the heavy door. As the last of the heavy metal bars were raised, sand began to trickle inside around the edges. Astro bent down and sifted a handful through his fingers. "It's so fine, it's like powder," he said as it fell to the deck in a fine cloud.

"Come on," said Tom, "give me a hand with this hatch. It's probably

jammed up against sand on the other side."

Tom, Roger and Astro braced their shoulders against the door, but when they tried to push, they lost their footing and slipped down. Astro dragged over a section of lead baffle, jammed it between the rocket motors and placed his feet up against it. Tom and Roger got on either side of him and pressed their shoulders against the door.

"All right," said Tom. "When I give the word, let's all push together. Ready?"

"All set," said Astro.

"Let's go," said Roger.

"O.K.—then—one—two—three—*push*!"

Together, the three cadets strained against the heavy steel hatch. The muscles in Astro's legs bulged into knots as he applied his great weight and strength against the door. Roger, his face twisted into a grimace from the effort, finally slumped to the floor, gasping for breath.

"Roger," asked Tom quickly, "are you all right?"

Roger nodded his head but stayed where he was, breathing deeply. Finally recovering his strength, he rose and stood up against the hatch with his two unit-mates.

"You and Roger just give a steady pressure, Tom," said Astro. "Don't try to push it all at once. Slow and steady does it! That way you get more out of your effort."

"O.K.," said Tom. Roger nodded. Again they braced themselves against the hatch.

"One—two—three—*push*!" counted Tom.

Slowly, applying the pressure evenly, they heaved against the steel hatch. Tom's head swam dizzily, as the blood raced through his veins.

"Keep going," gasped Astro. "I think it's giving a little!"

Tom and Roger pushed with the last ounce of strength in their bodies, and after a final desperate effort, slumped to the floor breathless. Astro continued to push, but a moment later, relaxed and slipped down beside Tom and Roger.

They sat on the deck for nearly five minutes gasping for air.

"Like—" began Roger, "like father—like son!" He blurted the words out bitterly.

"Like who?" asked Astro.

"Like my father," said Roger in a hard voice. He got up and walked unsteadily over to the oxygen bottle and kicked it. "Empty!" he said with a harsh laugh. "Empty and we only have one more bottle. Empty as my head the day I got into this space-happy outfit!"

"You going to start that again!" growled Astro. "I thought you had grown out of your childish bellyaching about the Academy." Astro eyed the blond cadet with a cold eye. "And now, just because you're in a tough spot, you start whining again!"

"Knock it off, Astro," snapped Tom. "Come on. Let's give this hatch

another try. I think it gave a little on that last push."

"Never-say-die Corbett!" snarled Roger. "Let's give it the old try for dear old Space Academy!"

Tom whirled around and stood face to face with Manning.

"I think maybe Astro's right, Roger," he said coldly. "I think you're a foul ball, a space-gassing hot-shot that can't take it when the chips are down!"

"That's right," said Roger coldly. "I'm just what you say! Go ahead, push against that hatch until your insides drop out and see if you can open it!" He paused and looked directly at Tom. "If that sand has penetrated inside the ship far enough and heavily enough to jam that hatch, you can imagine what is on top, outside! A mountain of sand! And we're buried under it with about eight hours of oxygen left!"

Tom and Astro were silent, thinking about the truth in Roger's words. Roger walked slowly across the deck and stood in front of them defiantly.

"You were counting on the ship being spotted by Captain Strong or part of a supposed searching party! Ha! What makes you think three cadets are so important that the Solar Guard will take time out to look for us? And if they *do* come looking for us, the only thing left up there now"—he pointed his finger over his head—"is a pile of sand like any other sand dune on this crummy planet. We're stuck, Corbett, so lay off that last chance, do-or-die routine. I've been eating glory all my life. If I do have to splash in now, I want it to be on my own terms. And that's to just sit here and wait for it to come. And if they pin the Medal—the Solar Medal—on me, I'm going to be up there where all good spacemen go, having the last laugh, when they put my name alongside my father's!"

"Your father's?" asked Tom bewilderedly.

"Yeah, my father. Kenneth Rogers Manning, Captain in the Solar Guard. Graduate of Space Academy, class of 2329, killed while on duty in space, June 2335. Awarded the Solar Medal *posthumously*. Leaving a widow and one son, *me*!"

Astro and Tom looked at each other dumfounded.

"Surprised, huh?" Roger's voice grew bitter. "Maybe that clears up a few things for you. Like why I never missed on an exam. I never missed because I've lived with Academy textbooks since I was old enough to read. Or why I wanted the radar deck instead of the control deck. I didn't want to have to make a decision! My father had to make a decision once. As skipper and pilot of the ship he decided to save a crewman's life. He died saving a bum, a no good space-crawling rat!"

Tom and Astro sat stupefied at Roger's bitter tirade. He turned away from them and gave a short laugh.

"I've lived with only one idea in my head since I was big enough to know why other kids had fathers to play ball with them and I didn't. To get into the Academy, get the training and then get out and cash in! Other kids had fathers. All I had was a lousy hunk of gold, worth exactly five hundred

credits! A Solar Medal. And my mother! Trying to scrape by on a lousy pension that was only enough to keep us going, but not enough to get me the extra things other kids had. It couldn't bring back my father!"

"That night—in Galaxy Hall, when you were crying—?" asked Tom.

"So eavesdropping is one of your talents too, eh, Corbett?" asked Roger sarcastically.

"Now, wait a minute, Roger," said Astro, getting up.

"Stay out of this, Astro!" snapped Roger. He paused and looked back at Tom. "Remember that night on the monorail going into Atom City? That man Bernard who bought dinner for us? He was a boyhood friend of my father's. He didn't recognize me, and I didn't tell him who I was because I didn't want you space creeps to know that much about me. And remember, when I gave Al James the brush in that restaurant in Atom City? He was talking about the old days, and he might have spilled the beans too. It all adds up, doesn't it? I had a reason I told you and it's just this! To make Space Academy pay me back! To train me to be one of the best astrogators in the universe so I could go into commercial ships and pile up credits! Plenty of credits and have a good life, and be sure my mother had a good life—what's left of it. And the whole thing goes right back to when my father made the decision to let a space rat live, and die in his place! So leave me alone with your last big efforts—and grandstand play for glory. From now on, keep your big fat mouth shut!"

"I—I don't know what to say, Roger," began Tom.

"Don't try to say anything, Tom," said Astro. There was a coldness in his voice that made Tom turn around and stare questioningly at the big Venusian.

"You can't answer him because you came from a good home. With a mom and pop and brother and sister. You had it good. You were lucky, but I don't hold it against you because you had a nice life and I didn't." Astro continued softly, "You can't answer Mr. Hot-shot Manning, but I can!"

"What do you mean?" asked Tom.

"I mean that Manning doesn't know what it is to really have it tough!"

"You got a *real* hard luck story, eh, big boy?" snarled Roger.

"Yeah, I have!" growled Astro. "I got one that'll make your life look like a spaceman's dream. At least you *know* about your father. And you lived with your mother. I didn't have *anything—nothing*! Did you hear that, Manning? I didn't even have a pair of shoes, until I found a kid at the Venusport spaceport one day and figured his shoes would fit me. I beat the space gas out of him and took his shoes. And then they were so tight, they hurt my feet. I don't know who my father was, nothing about him, except that he was a spaceman. A rocket buster, like me. And my mother? She died when I was born. Since I can remember, I've been on my own. When I was twelve, I was hanging around the spaceport day and night. I learned to buck rockets by going aboard when the ships were cradled for repairs, running dry runs, going through the motions, I talked to spacemen—all who would listen to me. I lied about my

age, and because I was a big kid, I was blasting off when I was fifteen. What little education I've got, I picked up listening to the crew talk on long hops and listening to every audioslide I could get my hands on. I've had it tough. And because I *have* had it tough, I want to forget about it. I don't want to be reminded what it's like to be so hungry that I'd go out into jungles and trap small animals and take a chance on meeting a tyrannosaurus. So lay off that stuff about feeling sorry for yourself. And about Tom being a hero, because with all your space gas you still can't take it! And if you don't want to fight to live, then go lie down in the corner and just keep your big mouth shut!"

Tom stood staring at the big cadet. His head jutted forward from his shoulders, the veins in his neck standing out like thick cords. He knew Astro had been an orphan, but he had never suspected the big cadet's life had been anything like that which he had just described.

Roger had stood perfectly still while Astro spoke. Now, as the big cadet walked back to the hatch and nervously began to examine the edges with his finger tips, Roger walked over and stood behind him.

"Well, you knuckle-headed orphan," said Roger, "are you going to get us out of here, or not?"

Astro whirled around, his face grim, his hands balled into fists, ready to fight. "What's that, Mann—?" He stopped. Roger was smiling and holding out his hand.

"Whether you like it or not, you poor little waif, you've just made yourself a friend."

Tom came up to them and leaned against the door casually. "When you two stop gawking at each other like long-lost brothers," he said lazily, "suppose we try to figure a way out of this dungeon."

CHAPTER 19

"Tom—Roger!" shouted Astro. "I think I've got it!"

Astro, on his knees, pulled a long file blade away from the hatch and jumped to his feet.

"Did you cut all the way through?" asked Tom.

"I don't know—at least I'm not sure," Astro replied, looking down at the hole he had made in the hatch. "But let's give it a try!"

"Think we can force it back enough to get a good hold on it?" asked Roger.

"We'll know in a minute, Roger," said Astro. "Get that steel bar over there and I'll try to slip it in between the hatch and the bulkhead."

Roger rummaged around in the jumble of broken parts and tools on the opposite side of the power deck and found the steel bar Astro wanted. After several attempts to force the hatch open had proven futile, Tom suggested that they try to file the hinges off the hatch, and then attempt to slide it sideways. After much effort, and working in shifts, they had filed through the three hinges, and now were ready to make a last desperate attempt to escape. Astro took the steel bar from Roger and jammed it between the bulkhead wall and the hatch.

"No telling what we'll find on the other side," said Astro. "If the sand has covered up the ship all the way down to here, then we'll never get out!"

"Couldn't we tunnel through it to the top, if it has filled the ship down as far as here?" asked Roger.

"Not through this stuff," said Tom. "It's just like powder."

"Tom's right," said Astro. "As soon as you dig into it, it'll fall right back in on you." He paused and looked at the hatch thoughtfully. "No. The only way we can get out of here is if the sand was only blown into the deck outside and hasn't filled the rest of the ship."

"Only one way to find out," said Tom.

"Yeah," agreed Roger. "Let's get that hatch shoved aside and take a look."

Astro jammed the heavy steel bar farther into the space between the hatch and the bulkhead, and then turned back to his unit-mates.

"Get that piece of pipe over there," he said. "We'll slip it over the end of the bar and that'll give us more leverage."

Tom and Roger scrambled after the length of pipe, slipped it over the end of the bar, and then, holding it at either end, began to apply even pressure against the hatch.

Gradually, a half inch at a time, the heavy steel hatch began to move

sideways, sliding out and behind the bulkhead. And as the opening grew larger the fine powderlike sand began to fall into the power deck.

"Let's move it back about a foot and a half," said Tom. "That'll give us plenty of room to get through and see what's on the other side."

Astro and Roger nodded in agreement.

Once more the three boys exerted their strength against the pipe and applied pressure to the hatch. Slowly, grudgingly it moved back, until there was an eighteen-inch opening, exposing a solid wall of the desert sand. Suddenly, as if released by a hidden switch, the sand began to pour into the power deck.

"Watch out!" shouted Tom. The three boys jumped back and looked on in dismay as the sand came rushing through the opening. Gradually it slowed to a stop and the pile in front of the opening rose as high as the hatch itself.

"That does it," said Tom. "Now we've got to dig through and find out how deep that stuff is. And spacemen, between you and me, I hope it doesn't prove too deep!"

"I've been thinking, Tom," said Roger, "suppose it's as high as the upper decks outside? All we have to do is keep digging it out and spreading it around the power deck here until we can get through."

"Only one thing wrong with that idea, Roger," said Tom. "If the whole upper part of the ship is flooded with that stuff, we won't have enough room to spread it around."

"We could always open the reaction chamber and fill that," suggested Astro, indicating the hatch in the floor of the power deck that lead to the reactant chamber.

"I'd just as soon take my chances with sand," said Roger, "as risk opening that hatch. The chamber is still hot from the wildcatting reaction mass we had to dump back in space."

"Well, then, let's start digging," said Tom. He picked up an empty grease bucket and began filling it with sand.

"You two get busy loading them, and I'll dump," said Astro.

"O.K.," replied Tom and continued digging into the sand with his hands.

"Here, use this, Tom," said Roger, offering an empty Martian water container.

Slowly, the three cadets worked their way through the pile on the deck in front of the hatch opening and then started on the main pile in the opening itself. But as soon as they made a little progress on the main pile, the sand would fall right in again from the open hatch, and after two hours of steady work, the sand in front of the hatch still filled the entire opening. Their work had been all for nothing. They sat down for a rest.

"Let's try it a little higher up, Tom," suggested Roger. "Maybe this stuff isn't as deep as we think."

Tom nodded and stepped up, feeling around the top of the opening. He began clawing at the sand overhead. The sand still came pouring through the opening.

"See anything?" asked Astro.

"I—don't—know—" spluttered Tom as the sand slid down burying him to his waist.

"Better back up, Tom," warned Roger. "Might be a cave-in and you'll get buried."

"Wait a minute!" shouted Tom. "I think I see something!"

"A light?" asked Astro eagerly.

"Careful, Tom," warned Roger again.

Tom clawed at the top of the pile, ignoring the sand that was heaped around him.

"I've got it," shouted Tom, struggling back into the power deck just in time to avoid being buried under a sudden avalanche. "There's another hatch up there, just behind the ladder that leads into the passenger lounge. That's the side facing the storm! And as soon as we dig a little, the sand falls from that pile. But the opposite side, leading to the jet-boat deck, is free and clear!"

"Then all we have to do is force our way through to the top," said Astro.

"That's all," said Tom. "We'd be here until doomsday digging our way clear."

"I get it!" said Roger. "The storm filled up the side of the ship facing that way, and that is where the passenger lounge is. I remember now. I left the hatch open when we came down here to the power deck, so the sand just kept pouring in." He smiled sheepishly. "I guess it's all my fault."

"Never mind that now!" said Tom. "Take this hose and stick it in your mouth, Astro. Breath through your mouth and plug up your nose so you won't get it all stopped up with sand while you pull your way through."

"I'll take this rope with me too," said Astro. "That way I can help pull you guys up after me."

"Good idea," said Roger.

"As soon as you get outside the hatch here," said Tom, "turn back this way. Keep your face up against the bulkhead until you get to the top. Right above you is the ladder. You can grab it to pull yourself up."

"O.K.," said Astro and took the length of hose and put it in his mouth. Then, taking a piece of waste cotton, he stopped up his nose and tested the hose.

"Can you breathe O.K.?" asked Tom.

Astro signaled that he could and stepped through the hatch. He turned, and facing backward, began clawing his way upward.

"Keep that hose clear, Roger!" ordered Tom. "There's about five feet of sand that he has to dig through and if any of it gets into the hose—well—"

"Don't worry, Tom," interrupted Roger. "I've got the end of the hose right next to the oxygen bottle. He's getting pure stuff!"

Soon the big cadet was lost to view. Only the slow movement of the hose and rope indicated that Astro was all right. Finally the hose and rope stopped moving.

Tom and Roger looked at each other, worried.

"You think something might be wrong?" asked Tom.

"I don't know—" Roger caught himself. "Say, look—the rope! It's jerking —Astro's signaling!"

"He made it!" cried Tom.

"I wonder if—" Roger suddenly picked up the end of the hose and spoke into it. "Astro? Hey, Astro, can you hear me?"

"Sure I can." Astro's voice came back through the hose. "Don't shout so loud! I'm not on Earth, you know. I'm just ten feet above you!"

Roger and Tom clapped each other on the shoulders in glee.

"All set down there?" called Astro, through the hose.

"O.K." replied Tom.

"Listen," said Astro, "when you get outside the hatch, you'll find a pipe running along the bulkhead right over your head. Grab that and pull yourself up. Tie the rope around your shoulder, but leave enough of it so the next guy can come up. We don't have any way of getting it back down there!" he warned. "Who's coming up first?"

Tom looked at Roger.

"You're stronger, Tom," said Roger. "You go up now and then you can give Astro a hand pulling me through."

"All right," agreed Tom. He began pulling the hose back through the sand. He took the end, cleared it out with a few blasts from the oxygen bottle and put it in his mouth. Then, after Roger had helped him tie the rope around his shoulders, he stuffed his nose with the waste cotton. He stepped to the opening. Roger gave three quick jerks on the rope and Astro started hauling in.

With Astro's help, Tom was soon free and clear, standing beside Astro on

the jet-boat deck.

"Phoooeeeey!" said Tom, spitting out the sand that had filtered into his mouth. "I never want to do that again!" He dusted himself off and flashed his emergency light around the deck. "Look at that!" he said in amazement. "If we'd kept on digging, we'd have been trapped down there for—" he paused and looked at Astro who was grinning—"a long, long time!" He held the light on the sand that was flowing out of the open hatch of the passenger lounge.

"Come on," urged Astro. "Let's get Roger out of there!"

They called to Roger through the hose and told him to bring two more emergency lights and the remainder of the Martian water. Three minutes later the *Polaris* unit was together again.

Standing on the deck beside his two unit-mates, Roger brushed himself off and smiled. "Well," he said, "looks like we made it!"

"Yeah," said Tom, "but take a look at this!" He walked across the jet-boat deck to the nearest window port. What should have been a clear view of the desert was a mass of solidly packed sand.

"Oh, no!" cried Roger. "Don't tell me we have to go through that again?"

"I don't think it'll be so bad this time," said Astro.

"Why not?" asked Tom.

"The sand is banked the heaviest on the port side of the ship. And the window ports on the starboard side of the control deck were pretty high off the ground."

"Well, let's not just stand here and talk about it," said Roger. "Let's take a look!" He turned and walked through the jet-boat deck.

Tom and Astro followed the blond cadet through the darkened passages of the dead ship, and after digging a small pile of sand away from the control-deck hatch, found themselves once more amid the jumble of the wrecked instruments.

For the first time in three days, the boys saw sunlight streaking through the crystal port.

"I told you," cried Astro triumphantly.

"But there still isn't any way out of this place!" said Roger. "We can't break that port. It's six inches thick!"

"Find me a wrench," said Astro. "I can take the whole window port apart from inside. How do you think they replace these things when they get cracked?"

Hurriedly searching through the rubble, Tom finally produced a wrench and handed it to Astro. In a half hour Astro had taken the whole section down and had pushed the crystal outward. The air of the desert rushed into the control room in a hot blast.

"Whew!" cried Roger. "It must be at least a hundred and twenty-five degrees out there!"

"Come on. Let's take a look," said Tom. "And keep your fingers crossed!"

"Why?" asked Roger.

"That we can dig enough of the sand away from the ship to make it recognizable from the air."

Following Tom's lead, Roger and Astro climbed through the open port and out onto the sand.

"Well, blast my jets!" said Astro. "You can't even tell there was a storm."

"You can't if you don't look at the ship," said Tom bitterly. "That was the only thing around here of any size that would offer resistance to the sand and make it pile up. And, spaceman, look at that pile!"

Astro and Roger turned to look at the spaceship. Instead of seeing the ship, they saw a small mountain of sand, well over a hundred feet high. They walked around it and soon discovered that the window port in the control deck had been the only possible way out.

"Call it what you want," said Roger, "but I think it's just plain dumb luck that we were able to get out!" He eyed the mound of sand. Unless one knew there was a spaceship beneath it, it would have been impossible to distinguish it from the rest of the desert.

"We're not in the clear yet!" commented Astro grimly. "It would take a hundred men at least a week to clear away enough of that sand so search parties could recognize it." He glanced toward the horizon. "There isn't anything but sand here, fellows, sand that stretches for a thousand miles in every direction."

"And we've got to walk it," said Tom.

"Either that or sit here and die of thirst," said Roger.

"Any canals around here, Tom?" asked Astro softly.

"There better be," replied Tom thoughtfully. He turned to Roger. "If you can estimate our position, Roger, I'll go back inside and see if I can find a chart to plot it on. That way, we might get a direction to start on at least."

Astro glanced up at the pale-blue sky. "It's going to be a hot day," he said softly, looking out over the flat plain of the desert, "an awful hot day!"

CHAPTER 20

"Got everything we need?" asked Tom.

"Everything we'll need—and about all we can safely carry without weighing ourselves down too much," answered Roger. "Enough food for a week, the rest of the Martian water, space goggles to protect our eyes from the sun and emergency lights for each of us."

"Not much to walk a hundred and fifty miles on," offered Astro. "Too bad the sand got in the galley and messed up the rest of that good food."

"We'll have plenty to get us by—if my calculations are right," said Tom. "One hundred and fifty-four miles to be exact."

"*Exact* only as far as my sun sight told me," said Roger.

"Do you think it's right?" asked Tom.

"I'll answer you this way," Roger replied. "I took that sight six times in a half hour and got a mean average on all of them that came out within a few miles of each other. If I'm wrong, I'm very wrong, but if I'm right, we're within three to five miles of the position I gave you."

"That's good enough for me," said Astro. "If we're going out there"—he pointed toward the desert—"instead of sitting around here waiting for Strong or someone to show up, then I'd just as soon go now!"

"Wait a minute, fellas. Let's get this straight," said Tom. "We're all agreed that the odds on Captain Strong's showing up here before our water runs out are too great to risk it, and that we'll try to reach the nearest canal. The most important thing in this place is water. If we stay and the water we have runs out, we're done for. If we go, we might not reach the canal—and the chance of being spotted in the desert is even smaller than if we wait here at the ship." He paused. "So we move on?" He looked at the others. Astro nodded and looked at Roger, who bobbed his head in agreement.

"O.K., then," said Tom, "it's settled. We'll move at night when it's cool, and try to rest during the day when it's the hottest."

Roger looked up at the blazing white sphere in the pale-blue sky that burned down relentlessly. "I figure we have about six hours before she drops for the day," he said.

"Then let's go back inside the ship and get some rest," he said.

Without another word, the three cadets climbed back inside the ship and made places for themselves amid the littered deck of the control room. A hot wind blew out of the New Sahara through the open port like a breath of fire. Stripped to their shorts, the three boys lay around the deck unable to sleep,

each thinking quietly about the task ahead, each remembering stories of the early pioneers who first reached Mars. In the mad rush for the uranium-yielding pitchblende, they had swarmed over the deserts toward the dwarf mountains by the thousands. Greedy, thinking only of the fortunes that could be torn from the rugged little mountains, they had come unprepared for the heat of the Martian deserts and nine out of ten had never returned.

Each boy thought, too, of the dangers they had just faced. This new danger was different. This was something that couldn't be defeated with an idea or a sudden lucky break. This danger was ever present—a fight against nature, man against the elements on an alien planet. It was a battle of endurance that would wring the last drop of moisture mercilessly from the body, until it became a dry, brittle husk.

"Getting pretty close to sundown," said Tom finally. He stood beside the open port and shielded his eyes from the glare of the sun, now slowly sinking below the Martian horizon.

"I guess we'd better get going," said Roger. "All set, Astro?"

"Ready, Roger," answered the Venusian.

The three boys dressed and arranged the food packs on their backs. Tom carried the remainder of the Martian water, two quart plastic containers, and a six-yard square of space cloth, an extremely durable flyweight fabric that would serve as protection from the sun during the rest stop of the day. Roger and Astro carried the food in compact packs on their backs. Each boy wore a makeshift hat of space cloth, along with space goggles, a clear sheet of colored plastic that fitted snugly across the face. All three carried emergency lights salvaged from the wrecked ship.

Tom walked out away from the ship several hundred yards and studied his pocket compass. He held it steady for a moment, watching the needle swing around. He turned and walked slowly still watching the needle of the compass. He waited for it to steady again, then turned back to Roger and Astro who stood watching from the window port.

"This is the way." Tom pointed away from the ship. "Three degrees south of east, one hundred and fifty-four miles away, if everything is correct, should bring us smack on top of a major canal."

"So long, *Lady Venus*," said Astro, as he left the ship.

"Don't think it hasn't been fun," added Roger, "because it hasn't!"

Astro fell in behind Roger, who in turn followed Tom who walked some ten feet ahead. A light breeze sprang up and blew across the surface of the powdery sand. Ten minutes later, when they stopped to adjust their shoulder packs, they looked back. The breeze had obliterated their tracks and the mountain of sand covering the spaceship appeared to be no different from any of the other small dunes on the desert. The New Sahara desert of Mars had claimed another Earth-ship victim.

"If we can't see the *Lady Venus* standing still, and knowing where to look," said Astro, "how could a man in a rocket scout ever find it?"

"He wouldn't," said Roger flatly. "And when the water ran out, we'd just be sitting there."

"We're losing time," said Tom. "Let's move." He lengthened his stride through the soft sand that sucked at his high space boots and faced the already dimming horizon. The light breeze felt good on his face.

* * * * *

The three cadets had no fear of running into anything in their march through the darkness across the shifting sands. And only an occasional flash of the emergency light to check the compass was necessary to keep them moving in the right direction.

There wasn't much talk. There wasn't much to talk about. About nine o'clock the boys stopped and opened one of the containers of food and ate a quick meal of sandwiches. This was followed by a carefully measured ounce of water, and fifteen minutes later they resumed their march across the New Sahara.

About ten o'clock, Deimos, one of the small twin moons of Mars, swung up overhead, washing the desert with a pale cold light. By morning, when the cherry-red sun broke the line of the horizon, Tom estimated that they had walked about twenty miles.

"Think we ought to camp here?" asked Astro.

"If you can show me a better spot," said Roger with a laugh, "I'll be happy to use it!" He swung his arm in a wide circle, indicating a wasteland of sand that spread as far as the eyes could see.

"I could go for another hour or so," said Astro, "before it gets too hot."

"And wait for the heat to reach the top of the thermometer? Uh-huh, not me," said Roger. "I'll take as much sleep as I can get now—while it's still a little cool."

"Roger's right," said Tom. "We'd better take it easy now. We won't be able to get much sleep after noon."

"What do we do from noon until evening?" asked Astro.

"Aside from just sitting under this hunk of space cloth, I guess we'll come as close to being roasted alive as a human can get."

"You want to eat now?" asked Astro.

Tom and Roger laughed. "I'm not hungry, but you go ahead," said Tom. "I know that appetite of yours won't wait."

"I'm not too hungry either," said Roger. "Go ahead, you clobber-headed juice jockey."

Astro grinned sheepishly, and opening one of the containers of food, quickly wolfed down a breakfast of smoked Venusian fatfish.

Tom and Roger began spreading the space cloth on the sand that was already hot to the touch. Anchoring the four corners in the sand with the emergency lights and one of Tom's boots, they propped up the center with the food packs, one on top of the other. A crude tent was the result and both boys crawled in under, sprawling on the sand. Astro finished eating, lay down beside his two unit-mates, and in a moment the three cadets were sound asleep.

The sun climbed steadily over the desert while the *Polaris* unit slept. With each hour, the heat of the desert rose, climbing past the hundred mark, reaching one hundred and twenty, then one hundred and thirty-five degrees.

Tom woke up with a start. He felt as if he were inside a blazing furnace. He rolled over and saw Astro and Roger still asleep, sweat pouring off them in small rivulets. He started to wake them, but decided against it and just lay still under the thin sheet of space cloth that protected him from the sun. As light as the fabric square was, weighing no more than a pound, under the intense heat of the sun it felt like a woolen blanket where it touched him. Astro rolled over and opened his eyes.

"What time is it, Tom?"

"Must be about noon. How do you feel?"

"I'm not sure yet. I had a dream." The big cadet rubbed his eyes and wiped the sweat from his forehead. "I dreamed I was being shoved into an oven—like Hansel and Gretel in that old fairy tale."

"Personally," mumbled Roger, without opening his eyes, "I'll take Hansel and Gretel. They might be a little more tender."

"I could do with a drink," said Astro, looking at Tom.

Tom hesitated. He felt that as hot as it was, it would get still hotter and there had to be strict control of the remainder of the water.

"Try to hold out a little longer, Astro," said Tom. "This heat hasn't really begun yet. You could drink the whole thing and still want more."

"That's right, Astro," said Roger, sitting up. "Best thing to do is just wet your tongue and lips a little. Drinking won't do much good now."

"O.K. by me," said Astro. "Well, what do we do now?"

"We sit here and we wait," answered Tom. He sat up and held the space cloth up on his side.

"You get in the middle, Astro," suggested Roger. "Your head is up higher than mine and Tom's. You can be the tent pole under this big top."

Astro grunted and changed places with the smaller cadet.

"Think there might be a breeze if we opened up one side of this thing?" asked Roger.

"If there was a breeze," answered Tom, "it'd be so hot, it'd be worse than what we've got inside."

"It sure is going to be a hot day," said Astro softly.

The thin fabric of the space cloth was enough to protect them from the direct rays of the sun, but offered very little protection against the heat. Soon

the inside of the tent was boiling under the relentless sun.

They sat far apart, their knees pulled up, heads bowed. Once when the heat seemed unbearable, Tom opened one side of the cloth in a desperate hope that it might be a little cooler outside. A blast of hot air entered the makeshift tent and he quickly closed the opening.

About three o'clock Roger suddenly slipped backward and lay sprawled on the sand.

Tom opened one of the containers of water and dipped his shirttail into it. Astro watched him moisten Roger's lips and wipe his temples. In a few moments the cadet stirred and opened his eyes.

"I—I—don't know what happened," he said slowly. "Everything started swimming and then went black."

"You fainted," said Tom simply.

"What time is it?" asked Astro.

"Sun should be dropping soon now, in another couple of hours."

They were silent again. The sun continued its journey across the sky and at last began to slip behind the horizon. When the last red rays stretched across the sandy desert, the three cadets folded back the space-cloth covering and stood up. A soft evening breeze sprang up, refreshing them a little, and though none of them was hungry, each boy ate a light meal.

Tom opened the container of water again and measured out about an ounce apiece.

"Moisten your tongue, and sip it slowly," ordered Tom.

Roger and Astro took their share of the water and dipped fingers in it, wiping their lips and eyelids. They continued to do this until finally, no longer able to resist, they took the precious water and swished it around in their mouths before swallowing it.

They folded the space cloth, shouldered their packs, and after Tom had checked the compass, started their long march toward their plotted destination.

They had survived their first twenty-four hours in the barren wastes of the New Sahara, with each boy acutely aware that there was at least a week more of the same in front of them. The sky blackened, and soon after Deimos rose and started climbing across the dark sky.

CHAPTER 21

"How much water left?" asked Astro thickly.

"Enough for one more drink apiece," Tom replied.

"And then what happens?" mumbled Roger through his cracked lips.

"You know what will happen, Roger—you know and I know and Tom knows," muttered Astro grimly.

For eight days they had been struggling across the blistering shifting sands, walking by night, sweltering under the thin space cloth during the day. Their tongues were swollen. Scraggly beards covered their chins and jaws. Roger's lips were cracked. The back of Tom's neck had suffered ten minutes of direct sun and turned into a large swollen blister. Only Astro appeared to be bearing up under the ordeal. There was no sign of their being close to the canal.

"Wanta try marching during the day?" asked Astro. They had broken camp on the evening of the eighth day and were preparing to move on into the never-changing desert.

"If we don't hit the canal sometime during the night, there might be a chance it's close enough to reach in a couple of hours," replied Tom. "Either that, or we've miscalculated altogether."

"How about you, Roger?" asked Astro.

"Whatever you guys decide, I'll be right in back of you." Roger had grown steadily weaker during the last three days and found it difficult to sleep during the hours of rest.

"Then we'll keep marching tomorrow," said Astro.

"Let's move out," said Tom. Roger and Astro shouldered the remaining slender food packs, with Tom carrying the water and space cloth, and they started out into the rapidly darkening desert.

Once again, as on the previous eight nights, the little moon, Deimos, swung across the sky, casting dim shadows ahead of the three marching boys. Tom found it necessary to look at the compass more often. He couldn't trust his sense of direction as much as he had earlier. Once, he had gone for two hours in a direction that was fifty degrees off course. The rest stops also were more frequent now, with each boy throwing his pack to the ground and lying flat on his back, to enjoy the cool breeze that never failed to soothe their scorched faces.

When the sun rose out of the desert on the morning of the ninth day, they stopped, ate a light breakfast of preserved figs, divided the juice evenly among them, and, ripping the space cloth into three sections, wrapped it around

themselves like Arabs and continued to walk.

By noon, with the sun directly overhead, they were staggering. At two-thirty the sun and the heat were so overpowering that they stopped involuntarily and tried to sit on the hot sand only to find that they couldn't and so they stumbled on.

Neither Roger nor Astro asked for water. Finally Tom stopped and faced his two unit-mates wobbling on unsteady legs.

"I've gone as far as I can without water. I—I don't think I can go another step. So come on, we'll finish what we've got."

Astro and Roger nodded in quiet agreement. They watched with dull eyes as Tom carefully opened the plastic container of water. He gave each a cup and slowly, cautiously, measured out the remaining water into three equal parts. He held the container up for a full minute allowing the last drop to run out before tossing the empty bottle to one side.

"Here goes," said Tom. He wet his lips, placed a wet finger on his temples and sipped the liquid slowly, allowing it to trickle down his parched throat.

Roger and Astro did the same. After he had wet his lips, Astro took the full amount in his mouth and washed it around, before swallowing it. Roger brought the cup up slowly to his mouth with trembling hands, tipped it shakily, and then before Astro or Tom could catch him, fell to the ground. The precious water spilled into the sand.

Tom and Astro watched dumfounded as the dry sand sucked away the water until nothing remained but a damp spot six inches wide.

"I guess—" began Tom, "I guess that about does it!"

"We'll have to carry him," said Astro simply.

Tom looked up into the eyes of his unit-mate. There he saw a determination that would not be defeated. He nodded his head and stooped over to grapple with Roger's legs. He got one leg under each arm and then tried to straighten up. He fell to the sand and rolled to one side. Astro watched him get up slowly, wearily, his space-cloth covering remaining on the ground, and then, with gritted teeth, try once more to pick Roger's legs up.

Astro put out his hand and touched Tom on the shoulder. His voice was low, hardly above a whisper. "You lead the way, Tom. I'll carry him."

"You lead the way, Tom. I'll carry him."

Tom looked up at the big Venusian. Their eyes locked for a moment and then he nodded his head and turned away. He pulled out the pocket compass and through blurred vision read the course beneath its wavering needle. He waved an arm in a direction to the right of them and staggered off.

Astro stooped down, picked Roger up in his arms and slowly got him across his shoulders. Then steadying himself, he walked after Tom.

Suddenly a blast of wind, hot as fire, swept across the sandy plains, whipping the sand up and around the two walking figures, biting into exposed hands and faces. Tom tried to adjust his goggles when the sand began to penetrate around the edges but his fingers shook and he dropped them. In a

flash, the sand drove into his eyes, blinding him.

"I can't see, Astro," said Tom in a hoarse whisper when Astro staggered up. "You'll have to guide."

Astro took the compass out of Tom's hand and then placed his unit-mate's hand on his back. Tom gripped the loose folds of the space cloth and uniform beneath and struggled blindly after the big cadet.

The hot sun bore down. The wind kept blowing and Astro, with Roger slung across his back like a sack of potatoes and Tom clinging blindly to his uniform, walked steadily on.

He felt each step would be his last, but with each step he told himself through gritted teeth that he could do ten more—and then ten more—ten more.

He walked, he staggered, and once he fell to the ground, Tom slumping behind him and Roger being tossed limply to the scorching sand. Slowly Astro recovered, helped Tom to his feet, then with the last of his great strength, picked up Roger again. This time, he was unable to get him to his shoulder so he carried him like a baby in his arms.

At last the sun began to drop in the red sky. Astro felt Roger's limp body slipping from his grip. By now, Tom had lost all but the very last ounce of his strength and was simply being pulled along.

"Tom—" gasped Astro with great effort, "I'm going to count to a thousand and then—I'm going to stop."

Tom didn't answer.

Astro began to count. "One—two—three—four—five—six—" He tried to make each number become a step forward. He closed his eyes. It wasn't important which way he went. It was only important that he walk those thousand steps, "five hundred eleven—five hundred twelve—five hundred thirteen—"

Involuntarily he opened his eyes when he felt himself climbing up a small rise in the sand. He opened his eyes and ten feet away was the flat blue surface of the canal they had been searching for.

"You can let go now, Tom," said Astro in a voice hardly above a whisper. "We made it. We're on the bank of the canal."

* * * * *

"Hey, Roger," yelled Astro from the middle of the canal, "ever see a guy make like a submarine?"

Tom and Roger sat on the top of the low bank of the canal drying off from a swim, while Astro still splashed around luxuriating in the cool water.

"Go on," yelled Roger, "let's see you drown yourself!"

"Not me, hot-shot," yelled Astro. "After that walk, all I'd have to do is open my mouth and start drinking."

Finally tiring of his sport, the big Venusian pulled himself up onto the bank of the canal and quickly dressed. Pulling on his space boots, he turned to Tom and Roger, who were breaking out the last two containers of food.

"You know, Astro," said Roger quietly, "I'll never be able to repay you for carrying me."

Tom was quiet for a moment, and then added, "Same here, Astro."

Astro grinned from ear to ear. "Answer me this one question, both of you. Would you have done it for me?"

The two boys nodded.

"Then you paid me. As long as I know I'm backed up by two guys like you, then I'm paid. Carrying you, Roger, was just something I could do for you at that particular time. One of these days, when we get out of this oven, there'll come a time when you or Tom will do something for me—and that's the way it should be."

"Thanks, Astro," said Roger. He reached over and put his hand on top of Astro's, and then Tom placed his hand on top of theirs. The three boys were quiet for a moment. There was an understanding in each of them that they had accomplished more than just survival in a desert. They had learned to respect each other. They were a unit at last.

"What do we do next?" asked Roger.

"Start walking that way," said Tom, pointing to his left along the bank of the canal that stretched off in a straight line to the very horizon. "If we're lucky, we might be able to find something to use as a raft and then we can ride."

"Think there are any fish in this canal?" asked Astro, gazing out over the cool blue water.

"Doubt it. At least I've never heard of there being any," replied Tom.

"Well," said Roger, standing up, "you can go a lot farther without food than you can without water. And we still have that big container of ham left."

"Yeah, as soon as it gets hot, we just swim instead of walk," said Astro. "And, believe me, there's going to be a lot of swimming done!"

"Think we might strike anything down that way," asked Roger. He looked down the canal in the direction Tom had indicated.

"That's the direction of the nearest atmosphere booster station. At least that was the way it looked on the chart. All of them were built near the canals."

"How far away do you think it is?" asked Astro.

"Must be at least three hundred miles."

"Let's start moving," said Roger, "and hope we can find something that'll float us on the canal."

Single file, wearing the space cloths once more as protection against the sun, they walked along the bank of the canal. When the heat became unbearable, they dipped the squares of space cloths into the water and

wrapped themselves in them. When they began to dry out, they would repeat the process. At noon, when the sun dried the fabric nearly as fast as they could wet it, they stopped and slipped over the edge of the bank into the cool water. Covering their heads with the cloths they remained partly submerged until the late afternoon. When the sun had lost some of its power, again they climbed out and continued walking.

Marching late into the night, they made camp beside the canal, finished the last container of food, and, for the first time since leaving the ship, slept during the night. By the time Deimos had risen in the sky, they were sound asleep.

CHAPTER 22

"Eeeeeeooooooooow!" Astro's bull-like roar shattered the silence of the desert. "There—up ahead, Tom—Roger—a building!"

Tom and Roger stopped and strained their eyes in the bright sunshine.

"I think you're right," said Tom at last. "But I doubt if anyone's there. Looks like an abandoned mining shack to me."

"Who wants to stand here and debate the question?" asked Roger, and started off down the side of the canal at a lope, with Astro and Tom right behind him.

During the last three days the boys had been living off the contents of the last remaining food container and the few lichens they found growing along the canal. Their strength was weakening, but with an abundant supply of water near at hand and able to combat the sun's heat with frequent swims, they were still in fair condition.

Tom was the first to reach the building, a one-story structure made of dried mud from the canal. The shutters and the door had long since been torn away by countless sandstorms.

The three boys entered the one-room building cautiously. The floor was covered with sand, and sand was piled in heaping drifts in front of the open windows and door.

"Nothing—not a thing," said Roger disgustedly. "This place must be at least a hundred and fifty years old."

"Probably built by a miner," commented Tom.

"What do you mean 'nothing'?" said Astro. "Look!"

They followed Astro's pointing finger to the ceiling. Crisscrossed, from wall to wall, were heavy wooden beams.

"Raft!" Tom cried.

"That's right, spaceman," said Astro, "a raft. There's enough wood up there to float the *Polaris*. Come on!"

Astro hurried outside, with Tom and Roger following at his heels. They quickly climbed to the roof of the old building and soon were ripping the beams from the crumbling mud. Fortunately the beams had been joined by notching the ends of the crosspieces. Astro explained that this was necessary because of the premium on nails when the house was built. Everything at that time had to be hauled from Earth, and no one wanted to pay the price heavy nails and bolts demanded.

One by one, they removed the heavy beams, until they had eight of them

lined up alongside the edge of the canal.

"How do we keep them together?" asked Roger.

"With this!" said Tom. He began ripping his space cloth into long strips. Astro and Roger tugged at the first beam. At last they had it in the water.

"It floats," cried Astro. Tom and Roger couldn't help but shout for joy. They quickly hauled the remaining beams into the water and lashed them together. Without hesitation, they shoved the raft into the canal, climbing aboard and standing like conquering heroes, as the raft moved out into the main flow of the canal and began to drift forward.

"I dub thee—*Polaris the Second*," said Tom in formal tones and gave the nearest beam a kick.

Astro and Roger gave a lusty cheer.

Steadily, silently, the raft bore them through the never-changing scene of the canal's muddy banks and the endlessness of the desert beyond.

Protecting themselves from the sun during the day by repeated dunkings in the water, they traveled day and night in a straight course down the center of the canal. At night, the tiny moon, Deimos, climbed across the desert and reflected light upon the satin-smooth water.

The third day on the raft they began to feel the pangs of hunger. And where during their march through the desert, their thoughts were of water, now visions of endless tables of food occupied their thoughts. At first, they talked of their hunger, dreaming up wild combinations of dishes and giving even wilder estimates of how much each could consume. Finally, discovering that talking about it only intensified their desire, they kept a stolid silence. When the heat became unbearable, they simply took to the water. Once Tom's grip on the raft slipped and Roger plunged in after him without a moment's hesitation, only to have Astro go in to save both of them.

On and on—down the canal, the three boys floated. Days turned into nights, and nights, cooling and refreshing, gave way to the blazing sun of the next day. The silent desert swept past them.

One night, when Astro, unable to sleep, was staring ahead into the darkness, he heard a rustling in the water alongside the raft. He moved slowly to the edge of the raft and peered down into the clear water.

He saw a fish!

The big cadet watched it dart around the raft. He waited, his body tense. Once the fish came to the edge of the raft, but before Astro could move his arm, it darted off in another direction.

At last the fish disappeared and Astro sank back on the timbers. He trailed one hand over the side in the water, and suddenly, felt the rough scales of the fish brush his fingers. In a flash, Astro closed his hand and snatched the wriggling creature out of the water.

"Tom—Roger—" he shouted. "Look—look—a fish—I caught a fish with my bare hands!"

Tom rolled over and opened his eyes. Roger sat in bewilderment.

"I watched him—I was watching him and then he went away. And then I held my hand over the side of the raft and he came snooping around and—well, I just grabbed him!"

He held the fish in the viselike grip of his right hand until it stopped moving.

"You know," said Tom weakly, "I just remembered. When we were in the Science Building in Atom City, one of their projects was to breed both Earth and Venus fish in the canals."

"I am going to shake, personally, the hand of the man who started this project when we get back to Atom City," said Astro.

Suddenly Roger gripped Tom's arms. He was staring in the direction the raft was going. "Tom—" he breathed, "Astro—look!"

They turned and peered into the dusk. In the distance, not a mile away, was the huge crystal-clear dome of the atmosphere booster station, its roaring atomic motors sending a steady purring sound out across the desert.

"We made it," said Tom, choking back the tears. "We made it!"

"Well, blast my jets," said Astro. "We sure did!"

* * * * *

"And you mean to tell me, you *walked* across that desert?" asked Captain Strong.

Tom glanced over at Astro and Roger. "We sure did, sir."

"With Astro doing the last stretch to the canal carrying me and dragging Tom," said Roger as he sipped his hot broth.

The room in the chief engineer's quarters at the atmosphere station was crowded with workers, enlisted Solar Guardsmen and officers of the Solar Guard. They stood around staring in disbelief at the three disheveled cadets.

"But how did you ever survive?" asked Strong. "By the craters of Luna, that blasted desert was hotter this past month than it has ever been since Mars was first colonized by Earthmen. Why—why—you were walking through temperatures that reached a hundred and fifty degrees!"

"You don't have to convince us, sir," said Roger with a smile. "We'll never forget it as long as we live."

Later, when Tom, Roger and Astro had taken a shower and dressed in fresh uniforms, Strong came in with an audioscriber and the three cadets gave the full version of their adventure for the official report back to the Academy. When they had finished, Strong told them of his efforts to find them.

"We knew you were in trouble right away," said Strong, "and we tracked you on radar. But that blasted storm fouled us all up. We figured that the sand would have covered up the ship, and that the chances of finding you in a scout

were very small, so I got permission from Commander Walters to organize this ground search for you." He paused. "Frankly we had just about given up hope. Took us three weeks finally to locate the section of desert you landed in."

"We knew you would come, sir," said Tom, "but we didn't have enough water to wait for you—and we had to leave."

"Boys," said Strong slowly, "I've had a lot of wonderful things happen to me in the Solar Guard. But I have to confess that seeing you three space-brained idiots clinging to that raft, ready to eat a raw fish—well, that was just about the happiest moment of my life."

"Thank you, sir," said Roger, "and I think I can speak for Tom and Astro when I say that seeing you here with over a hundred men, and all this equipment, ready to start searching for us in that desert—well, it makes us feel pretty proud to be members of an outfit where the skipper feels that way about his crew!"

"What happens now, sir?" asked Tom.

"Aside from getting a well-deserved liberty, it's back to the old grind at the Academy. The *Polaris* is at the spaceport at Marsopolis, waiting for us." He paused and eyed the three cadets with a smile. "I guess the routine at Space Academy will seem a little dull now, after what you've been through."

"Captain Strong," said Astro formally, "I *know* I speak for Tom and Roger when I say that *routine* is all we want for a long time to come!"

"Amen!" added Tom and Roger in unison.

"Very well," said Strong. "*Polaris* unit—Staaaaand *TO*!"

The three boys snapped to attention.

"You are hereby ordered to report aboard the *Polaris* at fifteen hundred hours and stand by to raise ship!"

He returned their salutes, turned sharply and walked from the room.

Outside, Steve Strong leaned against the wall and stared through the crystal shell of the atmosphere station into the endless desert.

"Thank you, Mars," he said softly, "for making spacemen out of the *Polaris* crew!" He saluted sharply and walked away.

Tom suddenly burst from the room with Roger and Astro yelling after him.

"Hey, Tom, where you going?" yelled Roger.

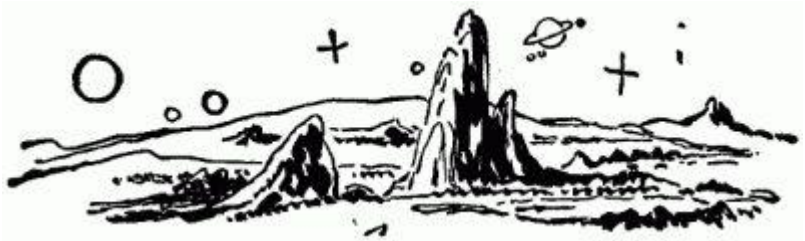
"I've got to get a bottle of that water out of the canal for my kid brother Billy!" shouted Tom and disappeared down a slidestairs.

Roger turned to Astro and said, "That's what I call a real spaceman."

"What do you mean?" asked Astro.

"After what we've been through, he still remembers that his kid brother wants a bottle of water from a canal as a souvenir!"

"Yeah," breathed Astro, "Tom Corbett is—is—a real spaceman!"



THE END

TOM CORBETT
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Danger in Deep Space

First Published 1953

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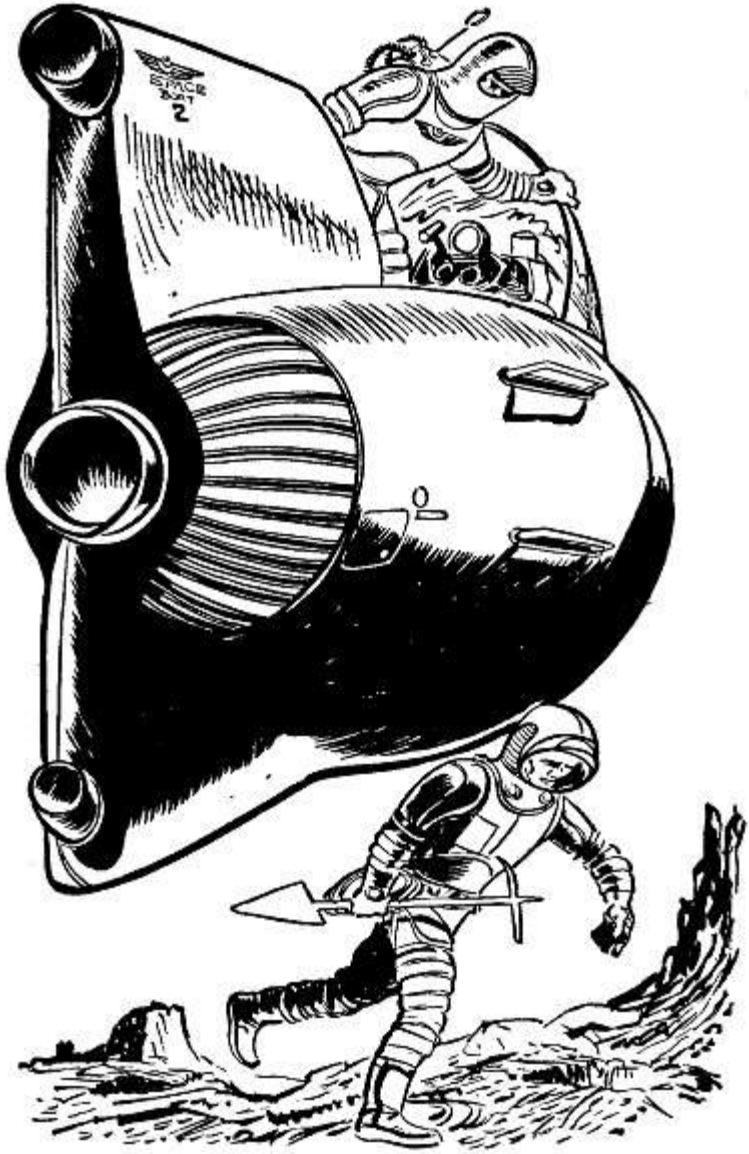

A TOM CORBETT Space Cadet Adventure

DANGER IN DEEP SPACE

By CAREY ROCKWELL

WILLY LEY *Technical Adviser*

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CHAPTER 1

"Stand by to reduce thrust on main drive rockets!" The tall, broad-shouldered officer in the uniform of the Solar Guard snapped out the order as he watched the telescanner screen and saw the Western Hemisphere of Earth looming larger and larger.

"Aye, aye, Captain Strong," replied a handsome curly-haired Space Cadet. He turned to the ship's intercom and spoke quickly into the microphone.

"Control deck to power deck. Check in!"

"Power deck, aye," a bull-throated voice bellowed over the loud-speaker.

"Stand by rockets, Astro! We're coming in for a landing."

"Standing by!"

The Solar Guard officer turned away from the telescanner and glanced quickly over the illuminated banks of indicators on the control panel. "Is our orbit to Space Academy clear?" he asked the cadet. "Have we been assigned a landing ramp?"

"I'll check topside, sir," answered the cadet, turning back to the intercom. "Control deck to radar deck. Check in!"

"Radar bridge, aye," drawled a lazy voice over the speaker.

"Are we cleared for landing, Roger?"

"Everything clear as glass ahead, Tom," was the calm reply.

"We're steady on orbit and we touch down on ramp seven. Then"—the voice began to quicken with excitement—"three weeks' liberty coming up!"

The rumbling voice of the power-deck cadet suddenly broke in over the intercom. "Lay off that space gas, Manning. Just see that this space wagon gets on the ground in one piece. Then you can dream about your leave!"

"Plug your jets, you big Venusian ape man," was the reply, "or I'll turn you inside out!"

"Yeah? You and what fleet of spaceships?"

"Just me, buster, with my bare hands!"

The Solar Guard officer on the control deck smiled at the young cadet beside him as the good-natured argument crackled over the intercom speaker overhead. "Looks like those two will never stop battling, Corbett," he commented dryly.

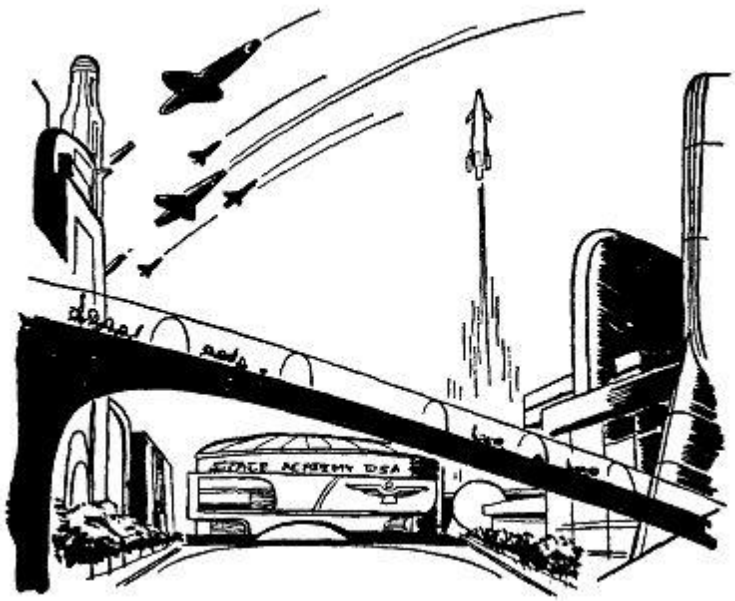
"Guess they'll never learn, sir," sighed the cadet.

"That's all right. It's when they stop battling that I'll start getting worried," answered the officer. He turned back to the controls. "One hundred thousand feet from Earth's surface! Begin landing procedure!"

As Cadet Tom Corbett snapped orders into the intercom and his unit-mates

responded by smooth co-ordinated action, the giant rocket cruiser *Polaris* slowly arched through Earth's atmosphere, first nosing up to lose speed and then settling tailfirst toward its destination—the spaceport at Space Academy, U.S.A.

Far below, on the grounds of the Academy, cadets wearing the green uniforms of first-year Earthworms and the blue of the upper-classmen stopped all activity as they heard the blasting of the braking rockets high in the heavens. They stared enviously into the sky, watching the smooth steel-hulled spaceship drop toward the concrete ramp area of the spaceport, three miles away.



In his office at the top of the gleaming Tower of Galileo, Commander Walters, commandant of Space Academy, paused for a moment from his duties and turned from his desk to watch the touchdown of the great spaceship. And on the grassy quadrangle, Warrant Officer Mike McKenny, short and stubby in his scarlet uniform of the enlisted Solar Guard, stopped his frustrating task of drilling newly arrived cadets to watch the mighty ship come to Earth.

Young and old, the feeling of belonging to the great fleet that patrolled the space lanes across the millions of miles of the solar system was something that never died in a true spaceman. The green-clad cadets dreamed of the future when they would feel the bucking rockets in their backs. And the older

men smiled faintly as memories of their own first space flight came to mind.

Aboard the *Polaris*, the young cadet crew worked swiftly and smoothly to bring their ship to a safe landing. There was Tom Corbett, an average young man in this age of science, who had been selected as the control-deck and command cadet of the *Polaris* unit after rigid examinations and tests. Topside, on the radar bridge, was Roger Manning, cocky and brash, but a specialist in radar and communications. Below, on the power deck, was Astro, a colonial from Venus, who had been accused of cutting his teeth on an atomic rocket motor, so great was his skill with the mighty "thrust buckets," as he lovingly called the atomic rockets.

Now, returning from a routine training flight that had taken them to the moons of Jupiter, the three cadets, Corbett, Manning, and Astro, and their unit skipper, Captain Steve Strong, completed the delicate task of setting the great ship down on the Academy spaceport.

"Closing in fast, sir," announced Tom, his attention focused on the meters and dials in front of him. "Five hundred feet to touchdown."

"Full braking thrust!" snapped Strong crisply.

Deep inside the *Polaris*, braking rockets roared with unceasing power, and the mighty spaceship eased itself to the concrete surface of the Academy spaceport.

"Touchdown!" yelled Tom. He quickly closed the master control lever, cutting all power, and sudden silence filled the ship. He stood up and faced Strong, saluting smartly.

"Rocket cruiser *Polaris* completes mission"—he glanced at the astral chronometer on the panel board—"at fifteen thirty-three, sir."

"Very well, Corbett," replied Strong, returning the salute. "Check the *Polaris* from radar mast to exhaust ports right away."

"Yes, sir," was Tom's automatic answer, and then he caught himself. "But I thought—"

Strong interrupted him with a wave of his hand. "I know, Corbett, you thought the *Polaris* would be pulled in for a general overhaul and you three would get liberty."

"Yes, sir," replied Tom.

"I'm not sure you won't get it," said Strong, "but I received a message last night from Commander Walters. I think the *Polaris* unit might have another assignment coming up!"

"By the rings of Saturn," drawled Roger from the open hatch to the radar bridge, "you might know the old man would have another mission for us! We haven't had a liberty since we were Earthworms!"

"I'm sorry, Manning," said Strong, "but you know if I had my way, you'd certainly get the liberty. If anyone deserves it, you three do."

By this time Astro had joined the group on the control deck.

"But, sir," ventured Tom, "we've all made plans, I mean—well, my folks are expecting me."

"*Us*, you mean," interrupted Roger. "Astro and I are your guests, remember?"

"Sure, I remember," said Tom, smiling. He turned back to Captain Strong. "We'd appreciate it if you could do something for us, sir. I mean—well, have another unit assigned."

Strong stepped forward and put his arms around the shoulders of Tom and Roger and faced Astro. "I'm afraid you three made a big mistake in becoming the best unit in the Academy. Now every time there's an important assignment to be handed out the name of the *Polaris* unit sticks out like a hot rocket!"

"Some consolation," said Roger dourly.

Strong smiled. "All right, check this wagon and then report to me in my quarters in the morning. You'll have tonight off at least. Unit *dis*-missed!"

The three cadets snapped their backs straight, stood rigid, and saluted as their superior officer strode toward the hatch. His foot on the ladder, he turned and faced them again.

"It's been a fine mission. I want to compliment you on the way you've handled yourselves these past few months. You boys are real spacemen!" He saluted and disappeared down the ladder leading to the exit port.

"And that," said Roger, turning to his unit-mates, "is known as the royal come-on for a dirty detail!"

"Ahhh, stop your gassing, Manning," growled Astro. "Just be sure your radar bridge is O.K. If we do have to blast out of here in a hurry, I want to get where we're supposed to be going!"

"You just worry about the power deck, spaceboy, and let little Roger take care of his own department," replied Roger.

Astro eyed him speculatively. "You know the only reason they allowed this space creep in the Academy, Tom?" asked Astro.

"No, why?" asked Tom, playing along with the game.

"Because they knew any time the *Polaris* ran out of reactant fuel we could just stick Manning in the rocket tubes and have him blow out some of his special brand of space gas!"

"Listen, you Venusian throwback! One more word out of you and—"

"All right, you two!" broke in Tom good-naturedly. "Enough's enough! Come on. We've got just enough time to run up to the mess hall and grab a good meal before we check the ship."

"That's for me," said Astro. "I've been eating those concentrates so long my stomach thinks I've turned into a test tube."

Astro referred to the food taken along on space missions. It was dehydrated and packed in plastic containers to save weight and space. The concentrates never made a satisfactory meal, even though they supplied everything necessary for a healthful diet.

A few moments later the three members of the *Polaris* stood on the main slidewalk, an endless belt of plastic, powered by giant subsurface rollers, being carried from the spaceport to the main academy administration building,

the great gleaming Tower of Galileo.

Space Academy, the university of the planets, was set among the low hills of the western part of the North American continent. Here, in the nest of fledgling spacemen, boys from Earth and the colonies of Venus and Mars learned the complex science that would enable them to reach unlimited heights; to rocket through the endless void of space and visit new worlds on distant planets millions of miles from Earth.

This was the year 2353—the age of space! A time when boys dreamed only of becoming Space Cadets at Space Academy, to learn their trade and later enter the mighty Solar Guard, or join the rapidly expanding merchant space service that sent out great fleets of rocket ships daily to every corner of the solar system.

As the slidewalk carried the three cadets between the buildings that surrounded the grassy quadrangle of the Academy, Tom looked up at the Tower of Galileo dominating the entire area.

"You know," he began haltingly, "every time I go near this place I get a lump in my throat!"

"Yeah," breathed Astro, "me too."

Roger made no comment. His eyes were following the path of the giant telescope reflector that moved in a slow arc, getting into position for the coming night's observations. Tom followed his gaze to the massive domed building, housing the giant one-thousand-inch reflector.

"You think we'll ever go as far into the deep with a rocket ship as we can see with the big eye?" he asked.

"I dunno," replied Roger. "That thing can penetrate other star systems in our galaxy. And that's a long way off!"

"Nearest thing to us is Alpha Centauri in our own galaxy, and that's twenty-three and a half million million miles away," commented Astro.

"That's not so far," argued Tom. "Only a few months ago the Solar Alliance sent out a scientific exploration to take a look at that baby."

"Musta been some hop," commented Roger.

"Hey!" cried Tom suddenly. "There's Alfie Higgins!" He pointed in the direction of another slidewalk moving at right angles to their own. The cadet that he singled out on the slidewalk was so thin and small he looked emaciated. He wore glasses and at the moment was absorbed in a paper he held in his hand.

"Well, what do you know!" cried Astro. "The Brain!"

Roger punched Astro in the mid-section. "If you were as smart as he is, you big grease monkey, you'd be O.K."

"Nah!" replied Astro. "If I was as smart as Alfie, I'd be scared. And besides, what do I need to be smart for? I've got you, haven't I?"

When they drew near the other slidewalk, the three members of the *Polaris* unit skipped lightly over and jostled their way past other riders to the slightly built cadet.

"Alfie!" Tom yelled and slapped the cadet on the back. Alfie turned, his glasses knocked askew by Tom's blow, and eyed the three *Polaris* members calmly.

"It gives me great pleasure to view your countenances again, Cadets Corbett, Manning, and Astro," he said solemnly, nodding to each one.

Astro twisted his face into a grimace. "What'd he say, Roger?"

"He's happy to see you," Roger translated.

"Well, in that case," beamed Astro, "I'm happy to see you too, Alfie!"

"What's the latest space dope around the Academy, Alfie?" asked Tom. "What's this?" he indicated the paper in Alfie's hand.

"By the sheerest of coincidences I happen to have a copy of your new assignment!" replied Alfie.

Tom, Roger, and Astro looked at each other in surprise.

"Well, come on, spaceman," urged Roger. "Give us the inside info. Where are we going?"

Alfie tucked the paper in his inside pocket and faced Roger. He cleared his throat and spoke in measured tones. "Manning, I have high regard for your personality, your capabilities, and your knowledge, all of which makes you an outstanding cadet. But even you know that I occupy a position of trust as cadet courier for Commander Walters and the administrative staff. I am not at liberty to mention anything that I would have occasion to observe while in the presence of Commander Walters or the staff. Therefore, you will please refrain from questioning me any further regarding the contents of these papers!"

Roger's jaw dropped. "Why, you human calculator, you were the one who brought it up in the first place! I oughta knock off that big head of yours!"

Tom and Astro laughed.

"Lay off, Roger," said Tom. "You ought to know Alfie couldn't talk if he wanted to! We'll just have to wait until Captain Strong is ready to tell us what our next assignment will be!"

By this time the slidewalk had carried them to the front of the main dormitory, and the wide doors were crowded with members of the Space Academy Corps heading in for the evening meal. From all corners of the quadrangle, the slidewalks carried Earthworms in their green uniforms, upper-class cadets in deep blue, enlisted spacemen in scarlet red, and Solar Guard officers in their striking uniforms of black and gold. Chatting and laughing, they all were entering the great building.

The *Polaris* unit was well known among other cadet units, and they were greeted heartily from all sides. As Astro and Roger joked with various cadet units, forming up in front of the slidestairs leading down to the mess halls, Alfie turned to take a slidestairs going up. Suddenly he stopped, grabbed Tom by the shoulders, and whispered in his ear. Just as abruptly he turned and raced up the ascending slidestairs.

"What was that about?" asked Roger, as Tom stood staring after the little

cadet.

"Roger—he—he said our next assignment would be one of the great experiments in space history. Something to be done that—that hasn't ever been done before!"

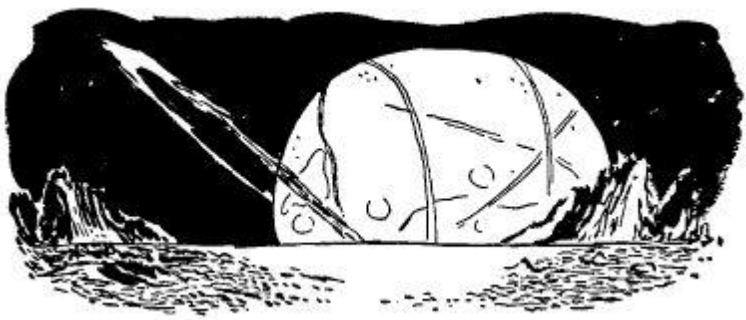
"Well, blast my jets!" said Astro. "What do you suppose it is?"

"Ahhh," sneered Roger, "I'll bet it's nothing more than taking some guinea pigs to see how they react to Jovian gravity. That's never been done before either! Why can't we get something exciting for a change?"

Tom laughed. "Come on, you bloodthirsty adventurer, I'm starved!"

But Tom knew that Alfie Higgins didn't get excited easily, and his eyes were wide and his voice trembled when he had whispered his secret to Tom.

The *Polaris* unit was due to embark on a great new adventure!



CHAPTER 2

"All O.K. here on the relay circuit," yelled Astro through the intercom from the power deck.

"O.K.," answered Tom. "Now try out the automatic blowers for the main tubes!"

"Wanta give me a little juice for the radar antenna, Astro?" called Roger from the radar deck.

"In a minute, Manning, in a minute," growled Astro. "Only got two hands, you know."

"You should learn to use your feet," quipped Roger. "Any normal Venusian can do just as much with his toes as he can with his fingers!"

Back and forth the bantering had gone for twelve hours, while the three members of the *Polaris* unit tested, checked, adjusted, and rechecked the many different circuits, relays, junction boxes, and terminals in the miles of delicate wiring woven through the ship. Now, as dawn began to creep pink and gray over the eastern horizon, they made their last-minute search through the cavernous spaceship for any doubtful connections. Satisfied there were none, the three weary cadets assembled on the control deck and sipped the hot tea that Manning had thoughtfully prepared.

"You know, by the time we get out of the Academy I don't think there'll be a single *inch* of this space wagon that I haven't inspected with my nose," commented Roger in a tired voice.

The three weary cadets assembled on the control deck

"You know you love it, Manning," said Astro, who, though as tired as Tom and Roger, could still continue to work if necessary. His love for the mighty atomic rocket motors, and his ability to repair anything mechanical, was already a legend around the Academy. He cared for the power deck of the *Polaris* as if it were a baby.

"Might as well pack in and grab some sleep before we report to Captain Strong," said Tom. "He might have us blasting off right away, and I, for one, would like to sleep and sleep and then sleep some more!"

"I've been thinking about what Alfie had to say," said Roger. "You know, about this being a great adventure."

"What about it?" asked Astro.

"Well, you don't give this kind of overhaul for just a plain, short hop

upstairs."

"You think it might be something deeper?" asked Astro softly.

"Whatever it is," said Tom, getting up, "we'll need sleep." He rose, stretched, and walked wearily to the exit port. Astro and Roger followed him out, and once again they boarded the slidewalk for the trip back to the main dormitory and their quarters on the forty-second floor. A half hour later the three members of the *Polaris* were sound asleep.

Early morning found Captain Steve Strong in his quarters, standing at the window and staring blankly out over the quadrangle. In his left hand he clutched a sheaf of papers. He had just reread, for the fifth time, a petition for reinstatement of space papers for Al Mason and Bill Loring. It wasn't easy, as Strong well knew, to deprive a man of his right to blast off and rocket through space, and the papers in question, issued only by the Solar Guard, comprised the only legal license to blast off.

Originally issued as a means of preventing overzealous Earthmen from blasting off without the proper training or necessary physical condition, which resulted in many deaths, space papers had gradually become the only effective means of controlling the vast expanding force of men who made space flight their life's work. With the establishment of the Spaceman's Code a hundred years before, firm rules and regulations for space flight had been instituted. Disobedience to any part of the code was punishable by suspension of papers and forfeiture of the right to blast off.

One of these rules stated that a spaceman was forbidden to blast off without authorization or clearance for a free orbit from a central traffic control. Bill Loring and Al Mason were guilty of having broken the regulation. Members of the crew of the recent expedition to Tara, a planet in orbit around the sun star Alpha Centauri, they had taken a rocket scout and blasted off without permission from Major Connel, the commander of the mission, who, in this case, was authorized traffic-control officer. Connel had recommended immediate suspension of their space papers. Mason and Loring had petitioned for a review, and, to assure impartial judgment, Commander Walters had sent the petition to one of his other officers to make a decision. The petition had landed on Strong's desk.

Strong read the petition again and shook his head. The facts were too clear. There had been flagrant disregard for the rules and there was no evidence to support the suspended spacemen's charge that they had been unjustly accused by Connel. Strong's duty was clear. He had to uphold Major Connel's action and suspend the men for a year.

Once the decision was made, Strong put the problem out of his mind. He walked to his huge circular desk and began sorting through the day's orders and reports. On the top of the pile of papers was a sealed envelope, bordered in red and marked "classified." It was from Commander Walters' office. Thoughtfully he opened it and read:

To: Captain Steve Strong:

Cadet Supervisor, *Polaris* Unit

Upon receipt of this communication, you are ordered to transfer the supervisory authority of the cadet unit designated as *POLARIS* unit; i.e., Cadets Tom Corbett, Roger Manning, and Astro, and the command of the rocket cruiser *Polaris*, to the command and supervisory authority of Major Connel for execution of mission as outlined herein:

1. To test range, life, and general performance of audio communications transmitter, type X21.

2. To test the above-mentioned transmitter under conditions of deep space flight.

3. This test to take place on the planet Tara, Alpha Centauri.

This communication and all subsequent information relative to above-mentioned mission shall be classified as *topmost secret*.

Signed: Walters,

Commandant, Space Academy

"So that's it," he thought. "A hop into deep space for the *Polaris* unit!" He smiled. "The cadets of the *Polaris* unit are in for a little surprise in two ways," he thought. "One from the mission and one from Major Connel!"

He almost laughed out loud as he turned to the small desk teleceiver at his elbow. He pressed a button immediately below the screen and it glowed into life to reveal a young man in the uniform of the enlisted guard.

"Yes, Captain Strong?" he asked.

"Call the cadets of the *Polaris* unit," Strong ordered. "Have them report to me here on the double!"

"Aye, aye, sir."

Strong started to turn the set off, but the enlisted man added, "By the way, sir, Al Mason and Bill Loring are here to see you."

"Oh—well—" Strong hesitated.

"They're quite anxious to know if you've reached any decision regarding their petition for reinstatement."

"Mmm—yes, of course. Very well, send them in."

"Aye, aye, sir."

The teleceiver screen blackened. In a moment the door opposite Strong's desk slid back, and Loring and Mason stepped into the office. They shambled forward and stopped in front of the huge desk, obviously ill at ease.

Strong stood up, holding their petition in his hand, and glanced over it briefly even though he knew its contents by heart. He motioned to near-by chairs. "Sit down, please," he said.

The two spacemen settled themselves uncomfortably on the edge of their

chairs and waited expectantly as Strong continued to look at the paper.

Loring finally broke the heavy silence.

"Well, Captain Strong, have you made a decision?" he asked. Loring was a heavy-set man, in his middle forties. He needed a shave, and when he talked, his mouth twisted into an ugly grimace.

"Hope it's in our favor, sir," suggested Mason. He was shorter than Loring and, seated, his feet hardly reached the floor. His eyes darted nervously about the huge room, and he kept rolling a dirty black spaceman's cap in his hands.

"Yes, I've reached a decision," said Strong slowly. He faced the two men and looked at both of them with a steady cold stare. "I've decided to sustain Major Connel's action. You are both grounded for the next twelve months. Earth months!"

"What?" shouted Loring, jumping to his feet. He banged his fist down on the desk and leaned over, his face close to Strong's. "You can't do that to us!"

Captain Strong didn't move. "I can," he said coldly. "And I have."

"But—but—" Mason began to whine. "But space flight is all we know! How will we live?"

Strong sat down and leaned back in his chair to get away from the foul odor of Loring's breath. He stared at the two men.

"You should have thought of that before you stole a rocket scout from the expedition and made an unauthorized flight while on Tara," Strong replied. "You're lucky you're not accused, tried, and convicted of theft of a Solar Guard spaceship!"

"We had permission to take that flight," snarled Loring. "That Major Connel is so blasted space happy he forgot he gave us permission. Then when we came back, he slapped us in the brig!"

"Do you have any proof of that?" asked Strong.

"No! But it's our word against his!" He slammed his hat down on the desk and shook his finger in Strong's face. "You haven't any right to take away our papers just on the say-so of a lousy Solar Guard officer who thinks he's king of the universe!"

"Take your filthy hat off my desk, Loring!" barked Strong. "And watch your language!"

Loring realized he had made a mistake and tried to backtrack. "Well, I apologize for that. But I *don't* apologize for saying he thinks he's—"

"Major Connel has been in the Solar Guard for thirty years," said Strong emphatically. "He's been awarded the Solar Medal three times. No other living spaceman has achieved that! Not even Commander Walters! He rose through the ranks of the enlisted Solar Guard and was commissioned as an officer of the Solar Guard in space during an emergency. He qualifies higher than any other spaceman, and he has never been found to be unjust! He's one of the finest spacemen ever to hit the wide, deep, and high!" Strong stopped, choked for breath, and turned away. It wasn't often he lost his temper, but something had to be said in defense of his fellow officer, and particularly

since that officer was Connel. He turned back to face the two spacemen, and his voice was hard and cold again.

"You are hereby suspended from space flight for twelve Earth months. Any further petition for appeal of this decision will be denied!"

"All right! All right, Mr. Big!" snapped Loring. "Does this mean we can't even ride as passengers?"

"No rights under the Universal Bill of Rights of the Solar Alliance have been denied you, except that of actively participating in the flight of a spaceship!"

The signal bell of the teleceiver began to chime softly, and on the desk the teleceiver screen glowed again. "Cadets Corbett, Manning, and Astro are here for their assignments, sir," announced the enlisted man outside.

Loring glared at Strong. "I suppose you're going to send some punk kids out on the next trip to Tara and leave us experienced spacemen to rot on the ground, huh?"

Strong didn't see the door slide open to admit the three cadets who entered quietly. His whole attention was focused on the ugly glaring faces of Bill Loring and Al Mason.

"Get this, Loring!" snapped Strong hotly. "The assignments of the *Polaris* unit, whether it be to Tara or the Moon, has nothing to do with your own breech of conduct. In any case, if they were to be assigned, they'd do a better job than you 'experienced' spacemen who are disrespectful of your superior officers and break regulations! If either of you makes one more crack about the Solar Guard or Space Cadets, or *anything* at all, I'll take you out on the quadrangle and pound some common courtesy into your heads! Now get out!"

"All right, all right—" muttered Loring retreating, but with a sneer on his lips. "We'll meet again, Mr. Bigshot Spaceman!"

"I hope so, Loring. And if we do, I hope you've taken a bath. You even smell bad!"

From the rear of the room came a burst of laughter. Tom, Roger, and Astro, unobserved, had been listening and watching their skipper in action. When Loring and Mason had left the room, they advanced to the desk, came to attention, and saluted.

"*Polaris* unit reporting for duty, sir!" snapped Tom crisply.

"At ease," said Strong. "Did you hear all of that?"

"Yes, sir, skipper!" Roger smiled. "And believe me, you really gave it to those two space bums!"

"Yeah," agreed Astro, "but I don't think even *you* could do much for Loring. He's just born to smell bad!"

"Never mind that," said Strong. "I suppose you heard the part about the assignments?"

The three cadets assumed looks of pure innocence.

"We didn't hear a thing, sir," said Tom.

"You'll make a fine diplomat, Corbett," Strong laughed. "All right, sit down

and I'll give it to you straight."

They hastily took seats and waited for their skipper to begin.

"You've been assigned as cadet observers on a mission to test the range of a new long-range audio transmitter." Strong paused, then added significantly, "The test is to take place in deep space."

The three cadets only beamed their enthusiastic approval.

"Tara," continued Strong, "is your destination—a planet like Earth in many respects, in orbit around the sun star Alpha Centauri. You'll take the *Polaris* directly to the Venus space station, where the transmitter has been given primary tests, outfit the *Polaris* for hyperdrive, and blast off!"

"Excuse me, sir," interrupted Tom, "but you say 'you'?"

"I mean," replied Strong, "*you*, in the sense that I won't be going along with you. Oh, don't worry!" said Strong, holding up his hand as a sudden look of anticipation spread over the faces of the three boys. "You're not going alone! You'll have a commanding officer, all right. In fact, you'll have the nearest thing to the perfect commanding officer in the Solar Guard!" He waited just long enough for each boy to search his mind for a suitable candidate and then added, "Your skipper will be Major Connel!"

"Major Connel!" the three cadets cried in unison.

"You mean Major 'Blast-off' Connel?" uttered Roger unbelievingly.

"That's who I mean," said Strong. "It's the best thing in the universe that could happen to you!"

Roger stood up and saluted smartly. "I request permission to be dismissed from this mission on the grounds of incompatibility, sir," he said.

"Incompatible to what?" asked Strong, amused.

"To Major Connel, sir," replied Roger.

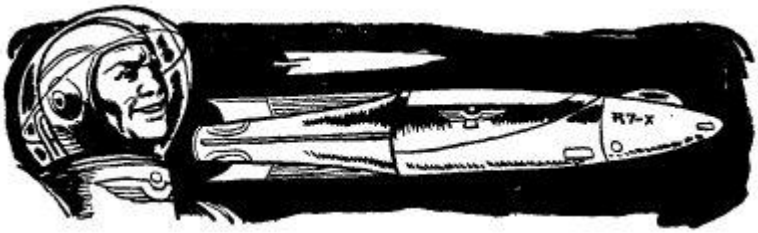
"Permission denied," said Strong with a smile. "Buck up! It isn't so bad." Strong paused and stood up. "Well, that's it. It's close to eleven A.M. and you're to report to the major at eleven on the nose. I hope you've got the *Polaris* in good shape."

"We were up all night, sir," said Tom. "She's ready to go."

"She's in better shape than we are," said Astro.

"Very well, then. Report to Major Connel immediately. Your papers have been transferred, so all you have to do is report."

Strong rounded the desk and shook hands with each cadet. "This is an important mission, boys," he said soberly. "See that you give Major Connel all the support I know you're capable of giving. He'll need it. I doubt if I'll see you before you blast off, so this is it. Spaceman's luck to each of you!"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CHAPTER 3

"Well, looks like we're big boys now," said Tom, as the three cadets strolled down the corridor away from Captain Strong's office. "They don't hand out secret and important missions to cadet units unless they're really on the ball!"

"But we've got Major 'Blast-off' Connel to educate," grumbled Roger.

"What do you mean 'educate'?" asked Astro.

"You know he's the roughest officer in the Academy," replied the blond-haired cadet. "He eats cadets for breakfast, lunch, and dinner. And then has an extra one for dessert. He isn't just tough—his hide's made of armor plate. But I've got a hunch that if we play dumb at first, then smarten up slowly, we can make him feel that he's done it for us. So he'll be easier on us."

"Say, it's after eleven!" exclaimed Tom. "We'd better hurry!"

Suddenly, as if a rocket cruiser were blasting off in the corridors, a roar, deafening and powerful, filled their ears. And beneath its ferocity there were four unmistakable words:

"*Polaris unit—staaaaaaaannnnnnddddddd toooooo!*"

Every muscle, every bone in their three bodies snapped to rigid attention simultaneously. Eyes straight, chins in, the cadets waited for whatever calamity had befallen them. From behind came quick, heavy footsteps. They drew closer until they passed alongside and then abruptly stopped. There, in front of them, stood the one and only Major "Blast-off" Connel!

Though a few inches shorter than Astro, he was what Astro might become in thirty years, heavily muscular, with a barrel chest that filled the gold-and-black uniform tightly. He stood balanced on the balls of his small feet like a boxer, hands hanging loosely at his sides. A bulldog chin jutted out of his rough-hewn face as if it were going to snap off the head of the nearest cadet. He towered over Tom and Roger, and though shorter than Astro, he made up for this by sheer force of personality. When he spoke, his voice was like a deep foghorn that had suddenly learned the use of vowels.

"So this is the great *Polaris* unit, eh?" he bellowed. "You're two minutes late!"

Tom suddenly felt that he and his unit-mates were all alone in the corridor with the major. He glanced to one side, then the other, cautiously, and saw it was empty. And for good reason! No one wanted to be around when "Blast-off" Connel was blasting. Cadets, enlisted men, and even officers were not safe from his sudden outbursts. He drove himself so hard that he became impatient with others who were not able to match his drive. It was not because of ego but rather to get the job at hand finished. More than once he had

dressed down a captain of the Solar Guard in the same tone he used on a green Earthworm. It was legend around the Academy that once, believing he was right, he had broken into the Council Chamber itself to argue his point. He won by a unanimous decision. Nothing, but nothing, had been devised or thought of that could stop "Blast-off" Connel. Every waking moment of his adult life had been spent in the pursuit of more and more knowledge about space, space travel, and life on the other planets.

Now, his wrath at fever pitch at their being tardy, he stood in front of the cadets, turning his anger on Roger first.

"Your name's Manning, isn't it?" he growled.

"Yes, sir!" replied Roger.

"Father got a medal—used to be a Solar Guard officer?"

"That's right, sir. He was killed in space."

"I know. He was a good man. *You'll* never be the man he was, if you live ten thousand years. But if you don't *try* to be a better man than he was, you won't live five minutes with me! Is that clear, Cadet Manning?"

"Very clear, sir!" gulped Roger.

Connel turned to Astro.

"And you're the home-grown atomic-rocket genius, Venusian style, eh?"

"Yes, sir," choked Astro. "I'm from Venus."

"Bucked rockets on the old chemical burners as a kid before entering the Academy, eh?" asked Connel. There was less than an inch and a half between Astro's face and Major Connel's jaw.

"Yes, sir," answered Astro, "I was an enlisted man before coming to the Academy."

"Well, get this, you rocket buster," roared Connel. "I want a power deck that will give me what I want, when I want it, or you'll be back in the ranks again. Is that clear, Cadet Astro?"

"Yes, sir! Everything she's got, when you want it, sir."

"And I like to have a power deck clean enough to eat off the deck plates!"

"Yes, sir," stuttered Astro, growing more and more confused. "You like to eat off the deck plates, sir!"

"*By the craters of Luna, no!* I don't like to eat off the deck plates, *but I want them clean enough to eat there if I want to!*"

"Yes, sir!" Astro's voice was hardly above a whisper.

"And you're the tactical wizard that won the space maneuvers recently, singlehanded, eh?" asked Connel, bending down to face Tom.

"Our side won, sir. If that answers your question," replied Tom. He was as nervous as Roger and Astro, but he fought for control. He was determined not to be bullied.

"I didn't ask you who won!" snapped Connel. "But you're the one just the same. Control-deck cadet, eh? Well, you work with me. On the control deck there's only room for one brain, one decision, one answer. And when I'm on the control deck, that decision, answer, and brain will be mine!"

"I understand perfectly, sir," said Tom tonelessly.

Connel stepped back, fists on his hips, eying the three cadets. He had heard about their difficulty in fitting personalities together when they had first arrived at Space Academy (as described in *Stand By for Mars!*). And he had heard about their triumph over the Martian desert. He was impressed with everything he had learned about them, but he knew that he had a reputation for being tough and that this reputation usually brought out the best in cadets. Early in his long and brilliant career he had learned that his life depended on the courage and ingenuity of his fellow spacemen. When he became an instructor at the Academy, he had determined that no cadet would ever be anything but the best, and that, when they blasted off in later years, they could be depended on.

He looked at the three cadets and felt a tinge of excitement that did not show on his scowling face. "Yes," he thought, "they'll make spacemen. It'll take a little time—but they're good material."

"*Now listen to this!*" he bawled. "We blast off for the Venus space station in exactly thirty minutes. Get your gear aboard the *Polaris* and stand by to raise ship." He dropped his voice and pushed out his jaw a little farther. "This will be the toughest journey you'll ever make. You'll either come back spacemen, or you'll come back nothing. I'm going to try my best to make it"—he paused and added coldly—"*nothing!* Because if you can't take it from me, then you don't belong in space! Unit *dis*-missed!"

He turned on his heel and disappeared up the slidestairs without another look at the three rigid cadets.

"Yeah—we'll educate him, all right," said Astro softly, with a wink at Tom. "Make him think he's done everything for us."

"Ah, go blast your jets!" snarled Roger after he had found his voice.

"Come on," said Tom. "Let's get the *Polaris* ready. And, fellows, I mean *ready!*"

* * * * *

Bill Loring and Al Mason stood near the entrance to the control tower of the Academy spaceport and watched the three cadets of the *Polaris* scramble into the giant rocket cruiser.

"Every time I think about that Connel kicking us out of space for twelve months I wanta pound his head in with a wrench!" snarled Loring.

Mason snorted. "Well, what's the use of hanging around here?" he asked. "That Connel wouldn't have us aboard the *Polaris*, even if we were cleared and had our papers. There ain't a thing we can do!"

"Don't give up so easy. There's a fortune setting up there in space—just

waiting for me and you to come and take it. And no big-shot Solar Guard officer is going to keep me from getting it!"

"Yeah—yeah," grumbled Mason, "but what are you going to do about it?"

"I'll show you what I'm going to do!" said Loring. "We're heading for Venusport."

"Venusport? By the moons of Jupiter, what are we going to do there?"

"Get a free ride to Tara!"

"But how? I only got a few hundred credits and you ain't got much more. There ain't nobody going to go fifty billion miles on nothing!"

Loring's eyes followed the massive figure of Major Connel on the slidewalk as it swept across the spaceport field toward the *Polaris*. "You just buy us a coupla seats on the next rocket to Venusport and stop asking stupid questions. When we see Major 'Blast-off' Connel again, we'll be giving the orders with a paralo-ray!"

The two disgruntled spacemen turned quickly and walked to the nearest slidewalk, disappearing around a building.

Aboard the *Polaris*, Tom confronted his two unit-mates.

"Now look, fellows. After the hard time Major Connel just gave us, let's see if we can't really stay on the ball from now on."

"All right by me, Tom," Astro said, nodding his head.

"You're having space dreams, Corbett!" drawled Roger. "No matter what we do for old 'Blast-off' we'll wind up behind the eight ball."

"But if we really try," urged Tom, "if we all do our jobs, there can't be anything for him to fuss about."

"We'll make it tough for him to give us any demerits," Astro chimed in.

"Right," said Tom.

"It won't work," grumbled Roger. "You saw the way he chewed us up, and for what? I ask you—for what?"

"He was just trying to live up to his reputation, Roger," replied Tom. "But common sense will tell you that if you're on the ball you won't get demerits."

"What's the matter, hot-shot?" growled Astro. "Afraid of a little work?"

"Listen, you Venusian clunk," sneered Roger, "I'll work the pants off you any day in the week, and that includes Titan days, too!"

"O.K." Tom smiled. "Save half of that energy for the *Polaris*, Roger."

"Yeah, use some of that Manning hot air to shine brass!" suggested Astro.

"Come on. Let's get this wagon in shape," said Tom. He turned to the instrument panel and the great control board.

A moment later the three cadets were busy shining the few bits of brass and rechecking the many controls and levers. Suddenly there was the sound of a hatch slamming below and then Astro's voice came whispering over the intercom, "… watch it, fellows. Here he comes!"

The airtight hatch leading to the control deck slid back, and Major Connel stepped inside. With one sweeping glance he took in the control deck and the evidence of their work.

"Unit—*staaaaand to!*" he roared.

Astro climbed into the control deck and snapped to attention with his unit-mates as Connel began a quick but thorough check of the many dials and switches and relays on the control panel.

"Ummmmh," he mused. "Been doing a little work, I see."

"Oh, nothing special, sir," said Roger.

"Well, from now on it's going to be special!" roared Connel.

"Yes, sir," acknowledged Roger quickly.

"All right, at ease," ordered Connel. As the three boys relaxed, Connel stepped over to the astrogation board and snapped a switch. Immediately a solar chart filled the huge chart screen. It was a black-and-white view of the planet Venus.

"This is where we're going first," he said, placing a finger on a ball-shaped satellite in orbit around the misty planet. "This is the Venus space station. As you know, Venus has no natural satellite of its own, so we built one. We'll blast off from here and go directly to the space station where the *Polaris* will be fitted with hyperdrive for deep-space operations. While at the station you will acquaint yourselves with the operation of the new audio communications transmitter. When I'm satisfied that you can handle it under the prevailing conditions of an extended space flight, we'll blast off for a test of its range and performance."

Major Connel paused and faced the cadets squarely. Then he continued: "This is an important mission—one which I hope will enable the Solar Guard to establish the first base outside of our solar system. Our destination is Tara, in the star system of Alpha Centauri. Tara is a planet in a stage of development similar to that of Earth several million years ago. Its climate is tropical, and lush vegetation—jungles really—covers the land surface. Two great oceans separate the land masses. One is called Alpha, the other Omega. I was on the first expedition, when Tara was discovered, and have just returned from the second, during which we explored it and ran tests to learn if it could sustain human life. All tests show that Tara can be transformed into a paradise."

Connel paused, took a deep breath, and continued: "I shall expect more than just hard work from you. I want everything you have to offer. Not just good performance, but *excellence!* I will not tolerate anything less, and if I'm forced to resort to extreme disciplinary action to get what I demand, then you can expect to receive every demerit in the book!" He stepped closer to the three cadets. "Remember! Spacemen—or *nothing!* Now, stand by to blast off!"

Without a word, the three cadets hurried to their stations and began routine procedure to raise ship.

"All departments ready to blast off, Major Connel," reported Tom, saluting sharply.

"Very well, Corbett, proceed," said Connel.

Tom called into the intercom, "Stand by for blast-off!" He then opened the circuit to the teleceiver screen overhead and spoke to the spaceport control tower.

"*Polaris* to spaceport control. Request permission to blast off. Request orbit."

"Spaceport traffic to *Polaris*. Your orbit has been cleared 089—repeat 089—blast off in two minutes…"

"Orbit 089—blast off minus one fifty-nine fifty-eight."

"You read me clear, *Polaris*…"

Tom clicked off the switch and turned to the intercom. "Control deck to radar bridge. Do we have a clear tangent forward and up?"

"All clear forward and up, Tom," replied Roger.

"Control deck to power deck. Energize the cooling pumps!"

"Cooling pumps in operation," answered Astro briskly.

The giant ship began to shudder as the mighty pumps on the power deck started their slow, whining build-up. Tom sat in front of the control panel, strapped himself into the acceleration chair, and began checking the dials and gauges. Satisfied everything was in order, he fastened his eyes to the sweeping red second hand on the solar clock. The teleceiver screen brought a sharp picture of the surrounding base of the spaceship, and he saw that it was all clear. The second hand reached the ten-second mark.

"Stand by to raise ship!" bawled Tom into the intercom. The red hand moved steadily, surely, to the zero at the top of the clock face. Tom reached for the master switch.

"Blast off minus five—four—three—two—one—*zero!*"

Tom threw the switch.

Slowly the giant ship raised itself from the ground. Then faster and faster, pushing the four spacemen deep into their acceleration cushions, it hurtled spaceward.

In a few seconds the *Polaris* was gravity-free. Once again, Earthmen had started another journey to the stars.

CHAPTER 4

"Stand by to reduce speed three-quarters!" roared Major Connel.

"Aye, aye, sir," replied Tom, and began the necessary adjustments on the control panel. He spoke into the intercom. "Control deck to power deck. Stand by to reduce thrust on main drive rockets by three-quarters. We're coming onto the space station, Astro."

"Power deck, aye," acknowledged Astro.

Drifting in a steady orbit around its mother planet, the Venus space station loomed ahead of the *Polaris* like a huge metal ball set against a backdrop of cold, black space. It was studded with gaping holes, air locks which served as landing ports for spaceships. Inside the station was a compact city. Living quarters, communications rooms, repair shops, weather observations, meteor information, everything to serve the great fleet of Solar Guard and merchant spaceships plying the space lanes between Earth, Mars, Venus, and Titan.

"I'm getting the identification request from the station, sir. Shall I answer her?" asked Roger over the intercom.

"Of course, you space-brained idiot, and make it fast!" exploded Connel. "What do you want to do? Get us blasted out of space?"

"Yes, sir!" replied Roger. "Right away, sir!"

Tom kept his eyes on the teleceiver screen above his head. The image of the space station loomed large and clear.

"Approaching a little too fast, I think, sir," volunteered Tom. "Shall I make the adjustment?"

"What's the range?" asked Connel.

Tom named a figure.

"Ummmmh," mused Connel. He glanced quickly over the dials and then nodded in assent. Tom turned once more to the intercom. "Control deck to power deck," he called. "Stand by for maneuvering, Astro, and reduce your main drive thrust to minimum space speed."

"Space station traffic control to rocket cruiser *Polaris*. Come in, *Polaris*. This is traffic control on space station to *Polaris*," the audio teleceiver crackled.

"Rocket cruiser *Polaris* to space station and traffic control. Request touchdown permission and landing-port number," replied Tom.

"Permission to touch down granted, *Polaris*. You are to line up on approach to landing-port seven—repeat—seven. Am now sending out guiding radar beam. Can you read beam?"

Tom turned to the intercom. "Have you got the station's guiding beam, Roger?"

"All lined up, Tom," replied Roger from the radar bridge. "Get that Venusian on the power deck to give me a three-second shot on the starboard rocket, if he can find the right handles!"

"I heard that, Manning!" roared Astro's voice on the intercom. "Another crack like that and I'll make you get out and push this baby around!"

"*You execute that order and do it blasted quick!*" Major Connel's voice exploded over the intercom. "And watch that loose talk on the ship's intercom. From now on, all directions and orders will be given and received in a crisp, clear manner without unnecessary familiarity!"

Connel didn't expect them to acknowledge his order. The cadets had heard him and that was enough. He knew it was enough. In the short time it had taken them to traverse the immense gulf of space between the Academy and the station Connel had handed out demerits by fives and tens! Each of the cadets was now tagged with enough black marks to spend two months in the galley working them off!

Now, working together like the smooth team of junior spacemen they were, Tom, Roger, and Astro maneuvered the great rocket ship toward the gaping hole of the air lock in the side of the white ball-like satellite.

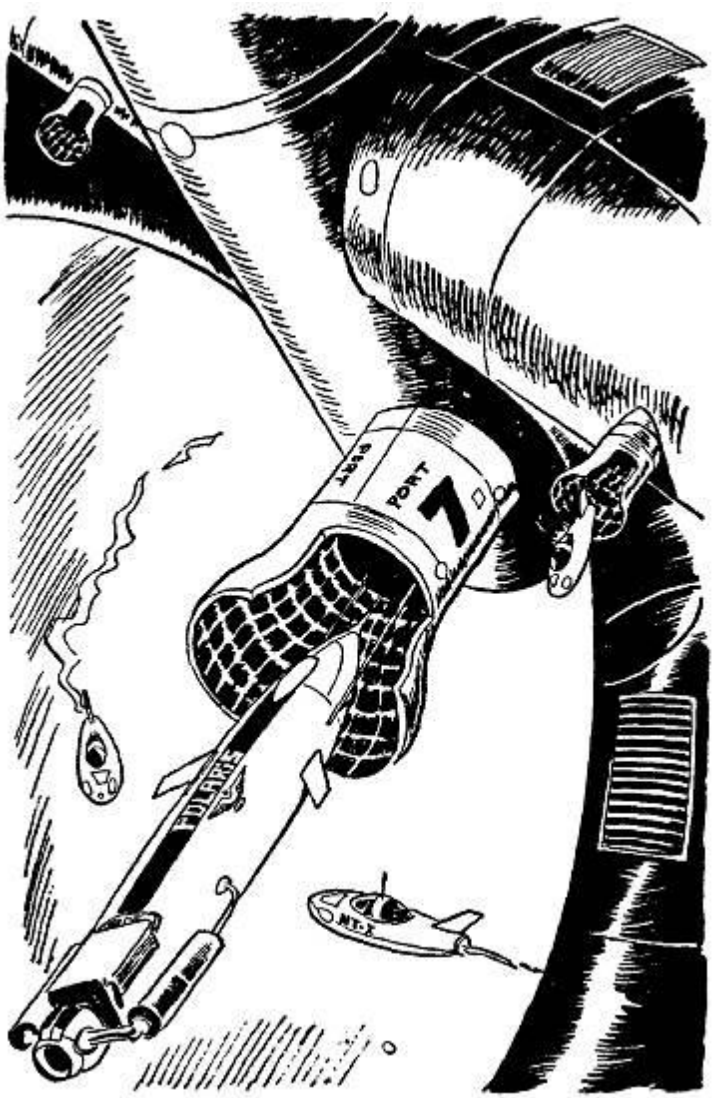
"Drop your bow one half degree, *Polaris*, you're up too high," warned the station control.

"A short burst on the upper trim rocket, Astro," called Tom.

The great ship bucked slightly under the force of sudden thrust, and then its nose dropped the required half degree.

"Cut all thrust and brake your speed to dead ship, *Polaris*," ordered traffic control.

Again Tom relayed the order to Astro, and a moment later the great ship hung silently in the airless void of space, a scant half mile from the station.



The junior spaceman maneuvered the great rocket ship toward the air lock

Through the teleceiver Tom could see the jet boats darting out from the station carrying the magnetic cables. In a moment the lines were attached to the steel skin of the ship, and gradually the lines tightened, pulling the mighty spaceship into the waiting port. Once inside, the outer air lock was closed and the *Polaris* was slung in the powerful magnetic cradles that held her in a rigid position. Elsewhere on the satellite, quick calculations were made for the

additional weight, and the station was counterbalanced to assure an even orbit around Venus.

Tom flicked the many switches off on the great board, glanced at the time of arrival on the solar clock, and reported to Major Connel.

"Touchdown at one-nine-four-nine, sir."

"Very well, Corbett," answered Connel. Then he added grudgingly, "That was as fine a job of control-deck operations as I've seen. Keep up the good work, spaceman."

Tom gulped. The unexpected compliment caught him off guard. And he was even more pleased that for the first time Connel had referred to him as spaceman!

"I'll be needed at the space station commander's quarters for a while, Corbett," said Connel. "Meanwhile, you and Manning and Astro acquaint yourselves with the station. Report to me back aboard the ship in exactly two hours. Dismissed."

Tom saluted, and Connel disappeared toward the exit port.

"Well, *spaceman*," Roger drawled casually from behind, "it looks like you've got yourself in solid with the old man!"

Tom smiled. "With a guy like that, Roger, you're never in solid. Maybe I did get a pat on the back, but you didn't hear him cancel any of those demerits he gave me for not signing the logbook after that last watch, did you?"

"Let's get some chow," growled Astro, who came hustling through the hatch. "I'm half starved. By the craters of Luna, how many times can you change course in five minutes?"

Astro referred to the countless times Tom had had to call for fraction-degree course changes in their approach to the gaping entrance port.

Tom laughed. "With Connel on the bridge, you're lucky I didn't give you twice as many," he replied. "Can you imagine what would have happened if we had missed and hit the station?"

"Brrrrrr!" shuddered Roger. "I hate to think about it. Come on. Let's rustle up some grub for the Venusian. I could use some myself."

The three boys quickly changed to their dress blue cadet uniforms and left the ship. A moment later they were being whisked up an electric elevator to the main—or "street"—level. The door opened, and they stepped out into a large circular area about the size of a city block in the rear of the station. The area had been broken into smaller sections. One side of the "street" was devoted to shops, a small stereo house which was playing the latest Liddy Tamal hit, "Children of Space" (a sensational drama about the lives of men in the future), restaurants, and even a curio shop. The Venus space station handled ninety per cent of the traffic into and out of Venusport. It was a refueling stop for the jet liners and space freighters bound for the outer planets, and for those returning to Earth. Some ships went directly to Venusport for heavy overhaul or supplies, but the station was established primarily for quick turn arounds. Several ex-enlisted spacemen who had been

injured or retired were given special permission to open shops for the convenience of the passengers and crews of the ships and the staff of the station. In twenty years the station had become a place where summer tourists from Earth and winter tourists from Titan made a point of stopping. The first of its kind in the universe, it was as near a perfect place to live as could be built by man.

Tom, Roger, and Astro strolled down the short street, pushing through a crowd of tourists admiring the shops. Finally they found a restaurant that specialized in Venusian dishes.

"Now you two spindly Earthmen are going to have the best meal of your lives! Broiled dinosaur on real Venusian black bread!"

"D-dinosaur!" stuttered Tom in amazement. "Why—why—that's a prehistoric monster!"

"Yeah, Astro," agreed Roger. "What are you trying to hand us?"

Astro laughed. "You'll see, fellows," he replied. "I used to go hunting for them when I was a kid. Brought the best price of any wild game. Fifty credits for babies under three hundred pounds. Over that, you can't eat 'em. Too tough!"

Tom and Roger looked at each other, eyes bulging.

"Ah, come on, Tom," drawled Roger. "He's just trying to pull our leg."

Without a word, Astro grabbed them by the arms and rushed them into the restaurant. They were no sooner seated when a recorded voice announced the menu over a small loud-speaker on the table. Astro promptly ordered dinosaur, and to his unit-mates' amazement, the voice politely inquired:

"Would the spacemen prefer to have it broiled a la Venusian black bread, baked, or raw?"

A sharp look from Roger and Tom, and Astro ordered it broiled.

One hour and fifteen minutes later the three members of the *Polaris* unit staggered out of the restaurant.

"By the rings of Saturn," declared Tom, "that wasn't only the most I ever ate—it was the best!"

Roger nodded in silent agreement, leaning against the plastic window in front of the restaurant.

"You see," Astro beamed, "maybe you guys will listen to me from now on!"

"Boy, I can't wait to see Mom's face when I tell her that her chicken and dumplings have taken second place to broiled monster!"

"By the jumping blazes of the stars!" yelled Roger suddenly. "Look at the time! We're ten minutes late!"

"Ohhhhh," moaned Tom. "I knew it was too good to be true!"

"Step on it!" said Astro. "Maybe he won't notice."

"Some chance," groaned Roger, running after Tom and Astro. "That old rocket head wouldn't miss anything!"

The three boys raced back to the electric elevator and were silently whisked

to the air-lock level. They hurried aboard the *Polaris* and into the control room. Major Connel was seated in a chair near the chart screen, studying some papers. The cadets drew themselves to attention.

"Unit reporting for duty, sir," Tom quavered.

Connel spun around in the swivel chair, glanced at the clock, put the papers to one side, and slowly advanced toward the cadets.

"Thirteen and a half minutes late!" he said, dropping his voice to a biting growl. "I'll give you five seconds to think up a good excuse. Every man is entitled to an excuse. Some have good ones, some have truthful ones, and some have excuses that sound as though they made them up in five seconds!"

He eyed the cadets speculatively. "Well?" he demanded.

"I'm afraid we were carried away by our enthusiasm for a meal Astro introduced us to, sir," said Tom honestly.

"All right," snapped Connel, "then here's something else to carry you all away!" He paused and rocked on the balls of his feet. "I had planned to give you three liberty of the station while here, whenever you weren't working on the new transmitter. But since you have shown yourselves to be carried away so easily, I don't think I can depend on your completing your regular duties. Therefore, I suggest that each of you report to the officer in charge of your respective departments and learn the operation and function of the station while we're here. This work will be *in addition* to your assigned duties on the new transmitter operation!"

The three cadets gulped but were silent.

"Not only that," Connel's voice had risen to an angry bark, "but you will be logged a demerit apiece for each minute you reported late. Thirteen and a half minutes, thirteen and a half demerits!"

The gold and black of the Solar Guard uniform never looked more ominous as the three cadets watched the stern spaceman turn and stomp out the exit port.

Alone, their liberty taken away from them before they even knew they had it, the boys sat around on the control deck of the silent ship and listened to the distant throb of a pump, rising and falling, pumping free air throughout the station.

"Well," sighed Tom, "I always did want to know how a space station worked. Now I guess I'll learn firsthand."

"Me, too," said Astro. He propped his big feet up on a delicate instrument panel of the control board.

"Me, too!" sneered Roger, his voice filled with a bitterness that surprised Tom and Astro. "But I didn't think I would find out like this! How in the universe has that—that tyrant managed to stay alive this long!"

CHAPTER 5

"The space station's biggest headache," said Terry Scott, a young Solar Guard officer assigned the job of showing the *Polaris* crew around, "is to maintain perfect balance at all times."

"How do you achieve that, sir?" asked Tom.

"We create our own gravity by means of a giant gyroscope in the heart of the station. When more weight is taken aboard, or weight leaves the station, we have to adjust the gyro's speed."

They entered the power deck of the great ball-like satellite. Astro's eyes glowed with pleasure as he glanced approvingly from one massive machine to another. The fuel tanks were made of thin durable aluminite; a huge cylinder, covered with heat-resistant paint, was the air conditioner; power came from a bank of atomic dynamos and generators; while those massive pumps kept the station's artificial air and water supply circulating.

Dials, gauges, meters, were arrayed in seemingly endless rows—but each one of them actually played its part in keeping the station in balance.

Astro's face was one big, delighted grin.

"Well," said Roger with a sly wink at Tom, "you can't tell me that Connel has made our Venusian unhappy. Even if he had given us liberty, I'll bet Astro would have spent it down here with the grease monkeys!"

Astro didn't rise to the bait. His attention was riveted on a huge dynamo, which he watched with appreciative eyes. But then Terry Scott introduced the *Polaris* unit to an older Solar Guard officer.

"Cadets, meet Captain Jenledge," said Scott. "And, sir, this is Cadet Astro. Major Connel would like him to work with you while he's here."

"Glad to know you, boys," said Jenledge, "and particularly you, Cadet Astro. I've heard about your handiness with the thrust buckets on the cruisers. What do you think of our layout?"

The officer turned and waved his hand to indicate the power-deck equipment.

"This is just about the finest—the most terrif—"

The officer smiled at Astro's inability to describe his feelings. Jenledge was proud of his power deck, proud of the whole establishment, for that matter. He had conceived it, had drawn the plans, and had constructed this space station.

Throughout the solar system it was considered his baby. And when he had asked for permission to remain on as senior power-deck chief, the Solar Alliance had jumped at the chance to keep such a good man on the job. The

station had become a sort of postgraduate course for power-deck cadets and junior Solar Guard officers.

Astro beamed. So, the great Jenledge had actually heard of him—of humble Cadet Astro. He could hardly restrain himself from ripping off his blue uniform and going right to work on a near-by machine that had been torn apart for repairs. Finally he managed to gasp, "I think it's great, sir—just wonderful!"

"Very well, Cadet Astro," said the officer. "There's a pair of coveralls in my locker. You can start right to work." He paused and his eyes twinkled. "If you want to, that is!"

"Want to!" roared Astro, and was off to the locker room.

Jenledge turned to Scott. "Leave him with me, Scotty. I don't think Cadet Astro's going to care much about the rest of the station!"

Scott smiled, saluted, and walked away. Tom and Roger came to attention, saluted, and followed the young officer off the power deck.

"Astro's probably happier now than he'll ever be in his life, Tom," whispered Roger.

"Yeah," agreed Tom. "Did you see the way his eyes lit up when we walked in there? Like a kid with a brand-new toy!"

A moment later Scott, Tom, and Roger, in a vacuum elevator, were being hurtled to the station's upper decks. They got out on the observation deck, and Scott walked directly to a small door at the end of a corridor. A light over the door flashed red and Scott stopped.

"Here's the weather and meteor observation room," he said. "Also radar communications. When the red light's on, it means photographs are being taken. We'll have to wait for them to finish."

As they waited, Tom and Roger talked to Scott. He had graduated from Space Academy seven years before, they learned. He'd been assigned to the Solar Alliance Chamber as liaison between the Chamber and the Solar Guard. After four years, he had requested a transfer to active space operations.

Then, he told them, there'd been an accident. His ship exploded. He'd been badly injured—in fact, both his legs were now artificial.

The cadets, who had thought him a bit stuffy at first, were changing their minds fast. Why hadn't he quit, they wanted to know?

"Leave space?" said Scott. "I'd rather die. I can't blast off any more. But here at the station I'm still a spaceman."

The red light went out, and they opened the door.

In sharp contrast to the bustle and noise on the power deck, the meteor, weather, and radar observation room was filled with only a subdued whisper. All around them huge screens displayed various views of the surface of Venus as it slowly revolved beneath the station. Along one side of the room was a solid bank of four-foot-square teleceiver screens with an enlisted spaceman or junior officer seated in front of each one. These men, at their microphones, were relaying meteor and weather information to all parts of the solar system.

Now it was Roger's turn to get excited at seeing the wonderful radar scanners that swept space for hundreds of thousands of miles. They were powerful enough to pick up a spaceship's identifying outline while still two hundred thousand miles away! Farther to one side, a single teleceiver screen, ten feet square, dominated the room. Roger gasped.

Scott smiled. "That's the largest teleceiver screen in the universe," he said. "The most powerful. And it's showing you a picture of the Andromeda Galaxy, thousands of light years away. Most of the lights you see there are no more than that, just light, their stars, or suns, having long ago exploded or burned. But the light continues to travel, taking thousands of years to reach our solar system."

"But—but—" gasped Tom. "How can you be so accurate with this screen? It looks as though we were smack in the center of the galaxy itself!"

"There's a fifty-inch telescope attached to the screen," Scott replied, "which is equal to the big one-thousand-inch 'eye' back at the Academy."

"Why is that, sir?" asked Roger.

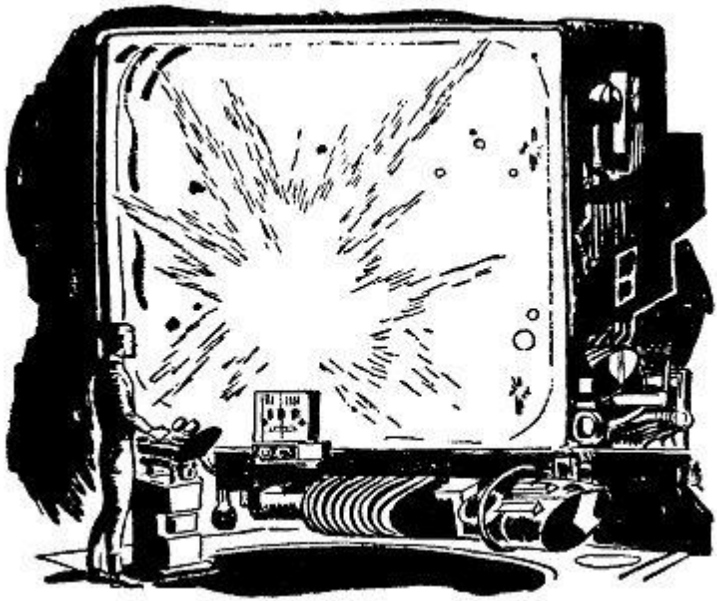
"You don't get any distortion from atmosphere up here," replied the young officer.

As Tom and Roger walked silently among the men at the teleceiver screens, Scott continued to explain. "This is where you'll be, Manning," he said, indicating a large radarscope scanner a little to one side and partially hidden from the glow of the huge teleceiver screen. "We need a man on watch here twenty-four hours a day, though there isn't much doing between midnight and eight A.M. on radar watch. A little traffic, but nothing compared to what we get during the regular working day."

"Any particular reason for that, sir?" asked Tom.

"Oh, there just aren't many arrivals and departures during that period. We have night crews to handle light traffic, but by midnight the station is pretty much like any sleepy Middle Western town. Rolls up the sidewalks and goes to bed."

He motioned to Roger to follow him to the radar section and left Tom watching the interesting spectacle on the giant teleceiver. A huge star cluster flashed brilliantly, filling the screen with light, then faded into the endless blackness of space. Tom caught his breath as he remembered what Scott had told him about the light being thousands of years old before reaching the solar system.



"Manning's all set, Corbett," said Scott at Tom's elbow. "Come on. I'll show you the traffic-control deck."

Tom followed the young officer out of the room. As all true spacemen do at one time or another in their lives, he thought about the pitifully small part mankind had played so far in the conquest of the stars. Man had come a long way, Tom was ready to admit, but there was still a lot of work ahead for young, courageous spacemen.

As Scott and Tom climbed the narrow stairs to the traffic-control deck, the Solar Guard officer continued to speak of the man-made satellite. "When the station was first built," he said, "it was expected to be just a way station for refueling and celestial observations. But now we're finding other uses for it, just as though it were a small community on Earth, Mars, or Venus. In fact, they're now planning to build still larger stations." Scott opened the door to the traffic-control room. He motioned to Tom to follow him.

This room, Tom was ready to admit, was the busiest place he had ever seen in his life. All around the circular room enlisted Solar Guardsmen sat at small desks, each with a monitoring board in front of him holding three teleceiver screens. As he talked into a mike near by, each man, by shifting from one screen to the next, was able to follow the progress of a spaceship into or out of the landing ports. One thing puzzled Tom. He turned to Scott.

"Sir, how come some of those screens show the *station* from the *outside*?" he asked. Tom pointed to a screen in front of him that had a picture of a huge jet liner just entering a landing port.

"Two-way teleceivers, Corbett," said Scott with a smile. "When you arrived

on the *Polaris*, didn't you have a view of the station on your teleceiver?"

"Yes, sir," answered Tom, "of course."

"Well, these monitors picked up your image on the *Polaris* teleceiver. So the traffic-control chief here could see exactly what you were seeing."

In the center of the circular room Tom noticed a round desk that was raised about eight feet from the floor. This desk dominated all activity in the busy room. Inside it stood a Solar Guard officer, watching the monitoring teleceivers. He wore a throat microphone for sending out messages, and for receiving calls had a thin silver wire running to the vibrating bone in his ear. He moved constantly, turning in a circle, watching the various landing ports on the many screens. Three-thousand-ton rocket liners, Solar Guard cruisers, scout ships, and destroyers all moved about the satellite lazily, waiting for permission to enter or depart. This man was the master traffic-control officer who had first contacted Tom on his approach to the station. He did that for all approaching ships—contacted them, got the recognition signal, found out the ship's destination, its weight, and its cargo or passenger load.

Then the connection was relayed to one of the secondary control officers at the monitoring boards.

"That's Captain Stefens," said Scott in a whisper. "Toughest officer on the station. He has to be. From five hundred to a thousand ships arrive and depart daily. It's his job to see that every arriving ship is properly taken into the landing ports. Besides that, everything you've seen, except the meteor and weather observation rooms, are under his command. If he thinks a ship is overloaded, he won't allow it to enter and disrupt the balance of the station. Instead, he'll order its skipper to dump part of his cargo out in space to be picked up later. He makes hundreds of decisions a day—some of them really hair-raising. Once, when a rocket scout crew was threatened with exploding reactant mass, he calmly told them to blast off into a desolate spot in space and blow up. The crew could have abandoned ship, but they chose to remain with it and were blown to atoms. It could have happened to the station. That night he got a three-day pass from the station and went to Venusport."

Scott shook his head. "I've heard Venusport will never be the same after that three-day pass of Captain Stefens."

The young officer looked at Corbett quizzically. "That's the man you're going to work for."

Scott walked over to the circular desk and spoke rapidly to the officer inside. As Tom approached, Stefens gave him a quick, sharp glance. It sent a shiver down the cadet's spine. Scott waved to him to come over.

"Captain Stefens, this is Cadet Tom Corbett."

Tom came to attention.

"All right, Corbett," said Stefens, speaking like a man who had a lot to do, knew how to do it, liked to do it, and was losing time. "Stand up here with me and keep your mouth shut. Remember any questions you want to ask, and when I have a spare moment, ask them. And by the rings of Saturn, be sure

I'm free to answer. Take my attention at the wrong moment and we could have a bad accident."

Stefens gave Scott a fleeting smile and turned back to his constant keen-eyed inspection of the monitors.

The radar watch was reporting the approach of a ship. Stefens began his cold, precise orders.

"Monitor seven, take freighter out of station on port sixty-six; monitor twelve, stand by for identification signal of jet liner coming in from Mars. Watch her closely. The Venusport Space Line is overloading again…" On and on he went, with Tom standing to one side watching with wide-eyed wonder as the many ships were maneuvered into and out of the station.

Suddenly Stefens turned to Tom. "Well, Corbett," he rasped, "what's the first question?"

Tom gulped. He had been so fascinated by the room's sheer magic and by Stefens' sure control of the traffic that he hadn't had a chance to think.

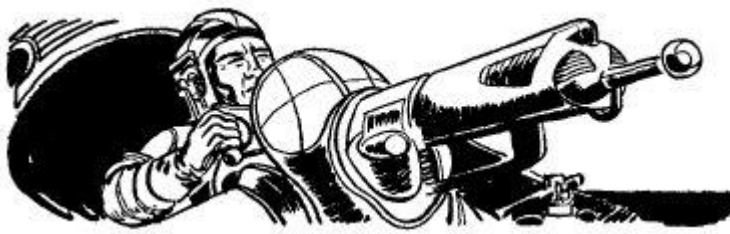
"I—I—don't have one—yet, sir," he managed finally.

"I want five questions within five minutes!" snapped Stefens, "and they better be rocket-blasting *good questions*!" He turned back to the monitors.

Tom Corbett, while he had gained the respect of many elder spacemen, was discovering that a cadet's life got no easier as time went on. He wondered fleetingly how Roger and Astro were making out, and then he began to think of some questions.

Beside him, oblivious of his presence, Stefens continued to spout directions. "Monitor three, take rocket scout out of landing-port eight. One crew member is remaining aboard the station for medical treatment. He weighs one hundred and fifty-eight pounds. Make balance adjustments accordingly…"

Tom's head was spinning. It was all too much for one young cadet to absorb on such short notice.



CHAPTER 6

"There goes the jet liner to Mars," said Al Mason wistfully. "Sure wish we wuz on her." His eyes followed the beautiful slim passenger ship just blasting off from Venus.

"Why?" demanded Loring.

"Anything to get away from Venusport. What a stinking hole!" snorted the shorter of the two spacemen.

"For what we want to do," said Loring, "there ain't another city in the system that's got the advantages this place has!"

"Don't talk to me about advantages," whined Mason. "Be darned if I can see any. All we been doing is hang around the spaceport, talk to the spacemen, and watch the ships blast off. Maybe you're up to something but I'm blasted if I see what it can be."

"I've been looking for the right break to come along."

"What kind of break?" growled Mason.

"That kind," said Loring. He pointed to a distant figure emerging from a space freighter. "There's our answer!" said Loring, a note of triumph in his voice. "Come on. Let's get outta here. I don't want to be recognized."

"But—but—what's up? What's that guy and the space freighter *Annie Jones* got to do with us?"

Loring didn't answer but stepped quickly to the nearest jet cab and hopped into the back seat. Mason tumbled in after him.

"Spaceman's Row," Loring directed, "and make it quick!"

The driver stepped on the accelerator and the red teardrop-shaped vehicle shot away from the curb into the crowd of cars racing along Premier Highway Number One. In the back seat of the jet cab, Loring turned to his spacemate and slapped him on the back.

"Soon's we get into the Row, you go and pack our gear, see! Then meet me at the Cafe Cosmos in half an hour."

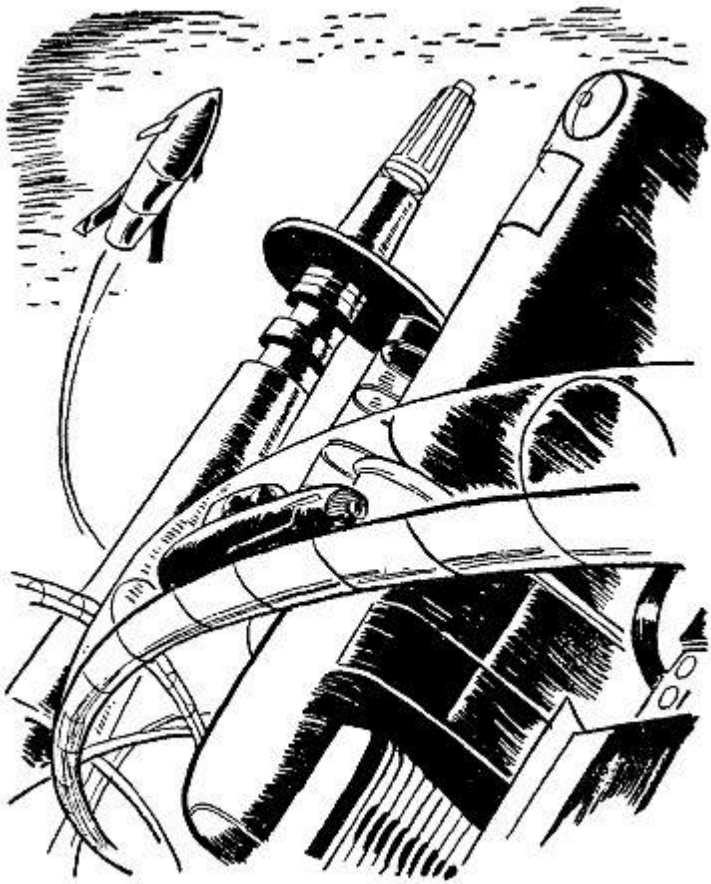
"Pack our gear?" asked Mason with alarm. "Are we going some place?"

Loring shot a glance at the driver. "Just do as I tell you!" he growled. "In a few hours we'll be on our way to Tara, and then—" He dropped his voice to a whisper. Mason listened and smiled.

The jet cab slid along the arrow-straight highway toward the heart of the city of Venusport. Soon it reached the outskirts. On both sides of the highway rose low, flat-roofed dwellings, built on a revolving wheel to follow the precious sun, and constructed of pure Titan crystal. Farther ahead and

looming magnificent in the late afternoon sun was the first and largest of Venusian cities, Venusport. Like a fantastically large diamond, the startling towers of the young city shot upward into the misty atmosphere, catching the light and reflecting it in every color of the spectrum.

Loring and Mason did not appreciate the beauty of the city as they rode swiftly through the busy streets. Loring, in particular, thought as he had never thought before. He was busily putting a plot together in his mind—a plot as dangerous as it was criminal.



The jet cab raced along the highway to Venusport

The jet cab slammed to a stop at a busy intersection of the city. This was

Spaceman's Row, and it dated back to Venusport's first rough and tough pioneering days.

For two blocks on either side of the street, in building after building, cafes, pawnshops, cheap restaurants above and below the street level, supplied the needs of countless shadowy figures who came and went as silently as ghosts. Spaceman's Row was where suspended spacemen and space rats, prospectors of the asteroids for uranium and pitchblende, gathered and found short-lived and rowdy fun. Here, skippers of rocket ships, bound for destinations in deep space, could find hands willing to sign on their dirty freighters despite low pay and poor working conditions. No questions were asked here. Along Spaceman's Row, hard men played a grim game of survival.

Loring and Mason paid the driver, got out, and walked down the busy street. Here and there, nuaniam signs began to flick on, their garish blues, reds, and whites bathing the street in a glow of synthetic light. It was early evening, but already Spaceman's Row was getting ready for the coming night.

Presently, Mason left Loring, climbing up a long narrow flight of stairs leading to a dingy back hall bedroom to pack their few remaining bits of gear.

Loring walked on amid the noise and laughter that echoed from cheap restaurants and saloons. Stopping before Cafe Cosmos, he surveyed the street quickly before entering the wide doors. Many years before, the Cosmos had been a sedate dining spot, a place where respectable family parties came to enjoy good food and the gentle breezes of a near-by lake. Now, with the lake polluted by industry and with the gradual influx of shiftless spacemen, the Cosmos had been given over to the most basic, simple need of its new patrons —rocket juice!

The large room that Loring entered still retained some of the features of its more genteel beginnings, but the huge blaring teleceiver screen was filled with the pouting face of a popular singer. He advanced to the bar that occupied one entire wall.

"Rocket juice!" he said, slamming down his fist on the wooden bar. "Double!" He was served a glass of the harsh bluish liquid, paid his credits, and downed the drink. Then he turned slowly and glanced around the half-filled room. Almost immediately he spotted a small wizened man limping toward him.

"Been waiting for you," said the man.

"Well," demanded Loring, "did'ja get anything set up, Shinny?"

"*Mr.* Shinny!" growled the little man, with surprising vigor. "I'm old enough to be your father!"

"Awright—awright—*Mr.* Shinny!" sneered Loring. "Did'ja get it?"

The little man shook his head. "Nothing on the market, Billy boy." He paused and aimed a stream of tobacco juice at a near-by cuspidor.

Loring looked relieved. "Just as well. I've got something else lined up, anyway."

Shinny's eyes sharpened. "You must have a pretty big strike, Billy boy, if

you're so hot to buy a spaceship!"

"Only want to take a little ride upstairs, *Mr.* Shinny," said Loring.

"Don't hand me that space gas!" snapped Shinny. "A man who's lost his space papers ain't going to take a chance at getting caught by the Solar Guard, busting the void with a rocket ship and no papers." He stopped, and his small gray eyes twinkled. "*Unless*," he added, "you've got quite a strike lined up!"

"Hey, Loring!" yelled Mason, entering the cafe. He carried two spaceman's traveling bags, small black plastic containers with glass zippers.

"So you've got Al Mason in with you," mused Shinny. "Pretty good man, Al. Let's see now, I saw you two just before you blasted off for Tara!" He paused. "Couldn't be that you've got anything lined up in deep space, now could it?"

"You're an old fool!" snarled Loring.

"Heh—heh—heh," chuckled Shinny. A toothless smile spread across his wrinkled face. "Coming close, am I?"

Al Mason looked at Shinny and back at Loring. "Say! What is this?" he demanded.

"O.K., O.K.," said Loring between clenched teeth. "So we've got a strike out in the deep, but one word outta line from you and I'll blast you with my heater!"

"Not a word," said Shinny, "not a word. I'll only charge you a little to keep your secret."

Mason looked at Loring. "How much?" he demanded.

"A twentieth of the take," said Shinny. "And that's dirt cheap."

"It's robbery," said Loring, "but O.K. We've got no choice!"

"Loring, wait a minute!" objected Mason. "One twentieth! Why, that could add up to a million credits!"

Shinny's eyes opened wide. "Twenty million! Hey, there hasn't been a uranium strike that big since the old seventeenth moon of Jupiter back in 2294!"

Loring motioned to them to sit down at a table. He ordered a bottle of rocket juice and filled three glasses.

"This ain't uranium, *Mr.* Shinny!" he said.

Shinny's eyes opened wider still. "What then?"

"What's the most precious metal in the system today?" Loring asked.

"Why—gold, I guess."

"Next to gold?"

Shinny thought for a moment. "Couldn't be silver any more, since they're making the artificial stuff cheaper'n it costs to mine it." The little man's jaw dropped and he stared at Loring. "You mean—?"

"That's right," said Loring, "copper!"

Shinny's mind raced. In this year of 2353, all major copper deposits had long since been exhausted and only small new deposits were being found, not nearly enough for the needs of the expanding system. In an age of electronics,

lack of copper had become a serious bottleneck in the production of electrical and scientific equipment. Search parties were out constantly, all over the solar system, trying to find more of the precious stuff. So a deposit of the kind Loring and Mason were talking about was a prize indeed.

Shinny's greedy fingers twitched with anticipation.

"So that's why you want to buy a spaceship, eh?"

"Wanted," replied Loring. "I don't want to buy one now. The way things look, we'll get what we want for nothing!"

Mason, who had been sitting quietly, suddenly jumped up. "So that's your angle! Well, I don't want any part of it," he shouted.

Loring and Shinny looked up in surprise.

"What're you talking about?" demanded Loring.

"All of a sudden it's come to me. Now I know why you've been hanging around the spaceport for the last two weeks. And what you meant when you saw the spaceman get out of that freighter today!"

"Sit down!" barked Loring. "If you weren't so dumb, you'd have caught on long ago." He eyed the shorter man from between half-closed lids. "It's the only way we can get out of here!"

"Not me. I ain't pulling anything like that!" whined Mason.

"What's going on here?" demanded Shinny. "What're you two space bums talking about?"

"I'll tell you what! He's going to try—"

Loring suddenly stood up and slapped the shorter spaceman across the mouth. Mason sat down, a dazed look on his face.

"You space-crawling rat!" hissed Loring. "You'll do what I tell you to do, see?"

"Yeah—yeah, sure," bleated Mason. "O.K. Anything you say. Anything."

"What is this?" demanded Shinny.

"You shut up!" growled Loring.

"I won't!" said Shinny, as he also rose from the table. "You may be tough, Billy Loring, but not as tough as me!"

The two men stared at each other for a moment. Finally Loring smiled and patted Mason's shoulder. "Sorry, Al. I guess I got a little hot for a moment."

"Quit talking riddles," pleaded Shinny. "What's this all about?"

"Sit down," said Loring.

They sank back into their chairs.

"It's simple," said Mason fearfully. "Loring wants to steal a spaceship."

"A pirate job!" said Shinny. He drew in his breath sharply. "You must be outta your mind!"

"You've called yourself in on this," Loring reminded him. "And you're staying in."

"Oh, no!" Shinny's voice dropped to a husky, frightened whisper. "Deal's off. I ain't gonna spend the rest of my life on a prison asteroid!"

"Shinny, you know too much!" Loring's hand darted toward the blaster he

wore at his belt.

"Your secret's safe with me. I give you my spaceman's word on it," said Shinny, pushing back his chair. Abruptly getting to his feet, he scrambled rapidly out the door of the Cafe Cosmos.

"Loring," said Mason, "get him. You can't let him…"

"Forget it," shot back the other. "He won't break his spaceman's oath. Not Shinny." He got up. "Come on, Mason. We haven't got much time before the *Annie Jones* blasts off."

"What are we gonna do?" the shorter man wanted to know.

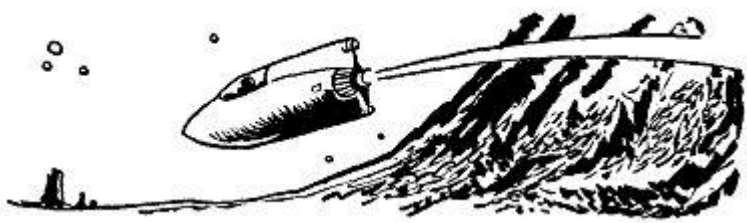
"Stow away on the cargo deck. Then, when we get out into space, we dump the pilots and head for Tara, for our first load of copper."

"But a job like this'll take money!"

"We'll make enough to go ahead on the first load."

Mason began to get up, hesitated, and then sat down again.

"Come on," snapped Loring. His hand dropped toward his belt. "I'm going to make you rich, Mason," he said quietly. "I'm going to make you one of the richest men in the universe—even if I have to kill you first."



CHAPTER 7

"Space freighter *Antares* from Venus space station. Your approach course is one-nine-seven—corrected. Reduce speed to minimum thrust and approach spaceport nine—landing-deck three. End transmission!"

Tom stood on the dais of the traffic-control room and switched the *Antares* beam to one of his assistants at the monitors in the control room. In less than two weeks he had mastered the difficult traffic-control procedure to the point where Captain Stefens had allowed him to handle the midnight shift. He checked the monitors and turned to see Roger walk through the door.

"Working hard, Junior?" asked Roger in his casual drawl.

"Roger!" exclaimed Tom. "What are you fooling around down here for?"

"Ah, there's nothing to do on the radar deck. Besides, I've got the emergency alarm on." He wiped his forehead. "Brother! Of all the crummy places to be stuck!"

"Could be worse," said Tom, his eyes sweeping the monitors.

"Nothing could be worse," groaned Roger. "But nothing. Think of that lovely space doll Helen Ashton alone on earth—and me stuck here on a space station."

"Well, we're doing an important job, Roger," replied Tom. "And doing it well, or Major Connel wouldn't leave us alone so much. How're you making out with the new equipment?"

"That toy?" sneered Roger. "I gave it a look, checked the circuits once, and knew it inside out. It's so simple a child could have built one!"

"Oh, sure," scoffed Tom. "That's why the top scientists worked for years on something small, compact, powerful enough to reach through deep space—and still be easy to repair."

"Quit heckling me, Junior," retorted Roger, "I'm thinking. Trying to figure out some way of getting to the teleceiver set on board the *Polaris*."

"Why can't you get on the *Polaris*?" asked Tom.

"They're jazzing up the power deck with a new hyperdrive unit for the big hop to Tara. So many guys buzzing around you can't get near it."

"What do you need a teleceiver for?" asked Tom.

"To give me company," replied Roger sourly. "Say!" He snapped his fingers suddenly. "Maybe if I just changed the frequency—"

"What frequency? What are you talking about?"

"Spaceboy, I'm getting a real hot-rocket idea! See ya later!" And the blond cadet ran for the door.

Tom watched his unit-mate disappear and shook his head in amused despair. Roger, he told himself, might be difficult, but he was certainly never dull.

Then his attention was brought back to the monitors by the warning of another approaching spaceship.

"… jet liner *San Francisco* to Venus space-station traffic control…" the metallic voice crackled over the speaker.

"Jet liner *San Francisco,* this is Venus space-station traffic control," replied Tom. "You are cleared for landing at port eleven—repeat—eleven. Make standard check for approach orbit to station landing. End transmission!"

From one side of the circular dais, Tom saw Major Connel enter the room. He snapped to attention and saluted smartly.

"Morning, Corbett," said Connel, returning Tom's salute. "Getting into the swing of the operation?"

"Yes, sir," said Tom. "I've handled about twenty approaches since Captain Stefens left me alone, and about fifty departures." Tom brought his fist up, with the thumb extended and wiped it across his chest in the traditional spaceman's signal that all was clear. "I didn't scratch one of 'em, sir," he said, smiling.

"Good enough," said Connel. "Keep it that way." He watched the monitor screen as the liner *San Francisco* settled into landing-port eleven.

When she was cradled and secure, he grunted his satisfaction and turned to leave. At the door he suddenly paused. "By the way, isn't Manning on radar watch?"

"Yes, sir," replied Tom.

"Well, it's one forty-eight. How about his standard check-in with traffic control?"

Tom stammered, "He—uh—he may be plotting some space junk, sir."

"He *still* must report, regardless of what he's doing!"

"I—uh—ah—yes, sir!" gulped Tom. Blast Roger anyway, he thought, forgetting the all-important quarter-hour check-in.

"I'd better go up and find out if anything's wrong," said Connel.

"Gosh, sir," suggested Tom, desperately seeking an excuse for his shipmate. "I'm sure Roger would have notified us if anything had happened."

"Knowing Manning as I do, I'm not so sure!" And the irascible officer thundered through the door like a jet-propelled tank!

* * * * *

"Come on, Mason. Hurry and put on that space suit," barked Loring.

"Take it easy," grumbled Mason. "I'm working as fast as I can!"

"Of all the rotten luck," growled Loring. "Who'd ever figure the *Annie Jones* would blast off from Venus—and then stop at the space station!"

"Shows you ain't so smart," retorted Mason. "Lots of ships do that. They carry just enough fuel to get 'em off the surface, so they'll be light while they're blasting out of Venus' gravity. Then they stop at the space station to refuel for the long haul."

"All right," barked Loring, "lay off the lecture! Just get that space suit on in a hurry!"

"Listen, wise guy," challenged Mason, "just tell me one thing. If we bail out of this tub in space suits, who's going to pick us up?"

"We're not bailing out!" said Loring.

"We're not? Then what are we suiting up for?"

"Just in case," said Loring. "Now listen to me. In a few minutes the *Annie Jones*'ll make contact with traffic control. Only instead of talking to the pilot —they'll be talking to us. Because we'll have taken over."

"But unless we land they'll be suspicious. And if we land…"

Loring interrupted. "Nobody's going to suspect a thing. I'll tell traffic control we've got an extra-heavy load. Then they won't let us land. We follow their orders and blast off into space—find an emergency fuel station—head for Tara—and nobody suspects anything."

Mason twisted his face into a scowl. "Sounds awful risky to me," he muttered.

"Sure it's risky," sneered Loring, "but you don't hit the jackpot without ever taking a *chance*!"

The two men, huddled against a jumble of packing cases in the cargo hold of the *Annie Jones*, made careful preparations. Checking their weapons, they opened their way toward the freighter's control deck. Just outside the hatch they stopped, paralo-ray guns ready, and listened.

Inside, Pilot James Jardine and Leland Bangs, his first officer, were preparing for the landing at the space station.

"Ought to be picking up the approach radar signal pretty soon," said Bangs. "Better take her off automatic control, Jardine. Use the manual for close maneuvering."

"Right," answered his spacemate. "Send out a radar blip for them to pick up. I'll check the cargo and make sure it's lashed down for landing. Captain Stefens is tough when it comes to being shipshape."

The freighter blasted evenly, smoothly onward through the darkness of space in a straight line for the man-made satellite. Jardine got up from the freighter's dual-control board, picked up a portable light, and headed for the hatch leading to the cargo deck.

"He's coming," hissed Loring. "We'll take him soon's he reaches us." There was a sharp clank as the hatch opened, and Jardine's head came into view.

"Now!" yelled Loring. He swung the heavy paralo-ray gun at Jardine's head.

"What the—" exclaimed the startled spaceman. "Bangs, look out!"

He tried to avoid the blow, but Loring's gun landed on the side of his head. Jardine crumpled to the deck.

Bangs was out of his seat in a moment, at his pilot's call. The burly redheaded spaceman saw at a glance what was wrong and lunged for the hatch.

Loring stepped toward him, holding his paralo-ray.

"All right, spaceboy!" he grated. "Hold it or I'll freeze you stiff!"

Bangs stopped and stared at the gun and at Jardine who was slumped on the deck. Mason rushed past him to the controls.

"What is this?" demanded Bangs.

"An old game," explained Loring with a sneer. "It's called 'You've got it and I take it.' And if you don't like it, you get it." He gestured with his gun. "You get it—with this."

Bangs nodded. "O.K.," he said. "O.K. But how about letting me take care of my buddy. He's hurt."

"Just a bump on the head," said Loring. "He'll come out of it soon enough."

"Hey," shouted Mason, "I can't figure out these controls!"

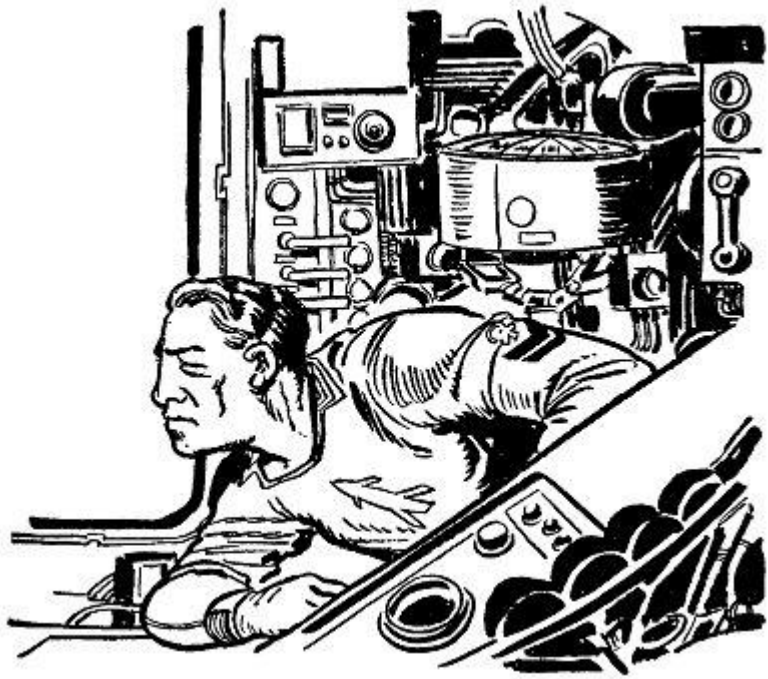
Loring growled angrily. "Here, lemme at them!" He forced Bangs to lie

down on the deck, and then, keeping the gun trained on the redheaded spaceman, stepped quickly to the control board. He handed Mason the gun.

"Keep an eye on them while I figure this baby out."

"Least you coulda done is steal a decent ship," grumbled Mason. "This tub is so old it creaks!"

"Just shut your mouth and keep your eye on those guys," said the other. He began to mutter to himself as he tried to figure out the complicated controls.



Jardine was now conscious but had the presence of mind not to move. His head ached from the blow. Slowly he opened his eyes and saw his two attackers bending over the board. He saw that Bangs was lying on the deck facing him. Jardine winked at Bangs, who returned the signal. Then he began, carefully, methodically to send a Morse-code message to his companion via his winking eyes.

"O-N-L-Y—one—gun—between—them. You—take—big—fellow. I'll—charge—gun…"

"Can't you figure this thing out either?" asked Mason, leaning over Loring's shoulder.

"Ah, this wagon is an old converted chemical burner. These controls are old

as the sun. I've got to find the automatic pilot!"

"Try that lever over there," suggested Mason.

Loring reached over to grasp it, turning away from his prisoners.

"Bangs, get 'em!" shouted Jardine. The two men jumped to their feet and lunged at Loring and Mason. Loring dove to one side, losing the gun in the scramble, but as he fell, he reached for the acceleration control lever. He wrenched it out of its socket and brought it down on Bang's head, and the officer slid to the floor. Jardine, meanwhile, had Mason in a viselike grip, but again Loring used the lever, bringing it down hard on the neck of the freighter pilot. Jardine dropped to the deck.

"Thanks, Loring," gasped Mason. "That was close! Good thing we had on these space suits, or we'd have been finished. They couldn't grab onto the smooth plastic."

"Finished is right!" snarled Loring. "I told you to keep an eye on them! If they'd nabbed us we woulda wound up on the prison asteroid!"

"Loring," shouted Mason, "look!" He pointed a trembling finger at the thrust indicator. "We're blasting at full space speed—right for the station!"

"By the rings of Saturn," cried Loring, "I must've jammed the thrust when I yanked the lever out of the control board!"

"Put it back! Slow this ship down!" cried Mason, his face ashen with fear. Loring jumped to the control board and with trembling fingers tried to replace the lever in the socket.

"I can't—can't—" he panted. "We gotta pile outta here! We're heading for the station. We'll crash!"

"Come on! This way! We left the space helmets back in the cargo hold!" shouted Mason. He ran toward the open hatch leading to the companionway. Suddenly he stopped. "Hey, what about those two guys?"

"Never mind them!" shouted Loring. "Keep going. We can't do anything for them now!"

And as the two men raced toward the stern, the freighter, her powerful rockets wide open, arrowed straight toward the gleaming white structure of the space station.

* * * * *

"It was easy, honey," cooed Roger into the microphone on the main control panel of the space-station radar bridge.

"I switched the frequency on the station, beamed to a teleceiver trunk line on Earth, and called you up, my little space pet! Smart, huh? Now remember we have a date as soon as I get back from this important and secret mission. I could've got out of it, but they needed me badly. As much as I like you, baby,

I had to go along to give the boys a break and…"

"*Cadet Manning!*" An infuriated roar echoed in the small chamber.

"Yeah, whaddaya wan—" growled Roger, turning to see who had interrupted him. He suddenly gulped and turned pale. "Ohhhhhhhhh—good-by, baby!" He flipped the switch and stood up.

"Uh—ah—good morning, Major Connel," he stammered.

"What's going on here, Manning?" barked Connel.

"I—was—talking, sir," replied Roger.

"So I heard! But talking to whom?"

"To whom, sir?"

"That's what I said, Manning." Connel's voice dropped to a deep sarcastic purr. "To whom?"

"I was—ah—talking to Earth, sir."

"Official business, I presume?"

"You mean—official—like here on the station, sir?"

"Official, like here on the station, Manning," replied Connel in almost a kindly tone.

"No, sir."

"You failed to make your quarter-hour check to the traffic-control center, I believe?"

"Yes, sir," gulped Roger. The full realization of what he had done was beginning to dawn on him.

"And you've tampered with vital station equipment for your own personal use," added Connel. With a sinking feeling in the pit of his stomach, Roger noticed the major was strangely quiet in his interrogation. It felt like the calm before the storm.

"Yes, sir," admitted Roger, "I changed several circuits."

"Are you aware of the seriousness of your negligence, Manning?" Connel's voice began to harden.

"Yes—yes—I guess so, sir," stumbled Roger.

"Can you repair that radar so that it can be used as it was intended?"

"Yes, sir."

"Then do so immediately. There are ships in flight depending on your information and signals."

"Yes, sir," said Roger quietly. Then he added quickly, "I'd like the major to know, sir, that this is the first time this has happened."

"I have only your word for that, Manning!" Connel finally began blasting in his all too familiar roar. "Since you've done it once, I see no reason to think you couldn't have done it before or that you might not do it again!" The officer's face was now almost purple with rage. "When you've repaired that set, return to your quarters! You are confined until I decide on disciplinary action!"

Turning abruptly, Connel stormed out of the room, slamming the hatch closed behind him.

With a sigh Roger turned back to the set. With trembling fingers he reconnected the terminals and made delicate adjustments on the many dials. Finally, as power began to flow through the proper chain of circuits, the radar scanner glowed into life and the hair-thin line of light swept around the dull green surface of the scope. It had been left on a setting covering two hundred miles around the space station, and seeing the area was clear, Roger increased the range to five hundred miles. The resulting scan sent a sudden chill down his spine. A spaceship was roaring toward the station at full thrust!

Cold sweat beaded Roger's forehead as he grabbed for the microphone and called Tom.

"Radar bridge to control deck!" The words tumbled out frantically. "Tom! Tom! There's a ship heading right for the station! Bearing 098! Distance 450 miles! Coming in on full thrust! Tom, acknowledge! Quick!"

Down on the control deck, Tom had been watching a space freighter easing out of the station when Roger's voice came over the speaker in a thin scream.

"What?" he yelled. "Give me that again, Roger!"

"Spaceship bearing 098—full thrust! Range now four twenty-five!"

"By the craters of Luna," shouted Tom, "why didn't you pick her up sooner, Roger?"

"Never mind that. Contact that guy and tell him to change course! He can't brake in time now!"

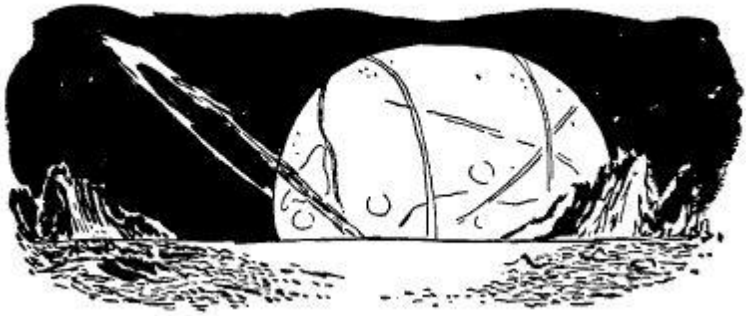
"All right! Sign off!" Without waiting for a reply, Tom cut Roger off and switched to a standard space band. His voice quivering, the young cadet spoke quickly and urgently into the microphone. "Space station to spaceship approaching on orbit 098. Change course! Emergency! Reduce thrust and change course or you will crash into us!"

As he spoke, Tom watched the master screen of his scanner and saw the ship rocketing closer and closer with no change in speed or course. He realized that any action, even now, would bring the craft dangerously close to the station. Without hesitation, he flipped on the master switch of the central station communicator, opening every loud-speaker on the station to his voice.

"Attention! Attention! This is traffic-control center! Emergency! Repeat. Emergency! All personnel in and near landing ports five, six, seven, eight, and nine—decks A, B, and C—evacuate immediately to opposite side of the station. Emergency crews stand by for crash! Spaceship heading for station! May crash! Emergency—emergency!"

On the endangered decks, men began to move quickly, and in a moment the great man-made satellite was prepared for disaster. On the control deck, Tom stayed at his station, sounding the warning.

"Emergency! Emergency! All personnel prepare for crash! All personnel prepare for crash!"



CHAPTER 8

"There—there!" shouted Captain Stefens into the mike aboard the jet boat circling around the station. "I think I see something bearing about seventy degrees to my left and up about twenty on the ecliptic! Do you see it, Scotty?"

Tom, in the bucket seat of the jet boat, strained his eyes but was unable to see over the control board.

Terry Scott, in a second jet boat ten miles away, answered quickly, "Yes, I think I see it, sir."

"Good!" shouted Stefens. "Maybe we've found something."

He spoke to Tom over his shoulder, keeping his eye on the floating objects in the black void of space. "Come to the starboard about one-quarter full turn, Corbett, and hold it. Then up, about twenty-five degrees."

"Aye, aye, sir," said Tom. He began to maneuver the small gnat-sized space craft to the proper position.

"That's good!" shouted Stefens. "Now hold that. Let me see. I think we've hit pay dirt."

From the right, Tom could see the red flash of the rockets of Terry Scott's jet boat, which Astro had volunteered to pilot, coming into view. As soon as order had been restored aboard the station, search parties had been sent out to look for survivors.

Carefully Tom slowed the space craft in response to Stefens' brief commands and soon came to a dead halt in space. There, hovering right above them, visible through the crystal dome of the jet boat, Tom could see two space-suited figures floating effortlessly. A moment later Scott's craft came alongside, and the two small ships were lashed together with magnetic lines. Tom and Stefens hurriedly pulled on their space helmets. They adjusted the valves regulating the oxygen supply in their suits, and Stefens slipped back the sliding top of the jet boat. Out on the hull he secured a line to a projecting ring, and ordering Tom to stand by, he pushed himself off the ship into the bottomless void of space.

The line trailing behind him, Stefens drifted toward the two helpless figures. He reached them in less than a minute, secured the line to their belts, and signaled Tom to haul in.

Near by, Terry Scott and Astro watched as the three figures were pulled to safety.

Quickly the top of the jet boat was closed, oxygen pressure in the craft was restored, and the four men took off their helmets.

"Whew!" said Loring. "I sure want to thank you for pulling us out of the deep!"

"We sure do, sir!" added Mason. Then, with a quick look at Loring, he asked softly, "Were there any other survivors?"

Stefens' face was grim. "Not one. After we untangled the mess, we found bodies of two men. It was pretty bad. A little later something was spotted on the radar, and we hoped there might be survivors. Luckily for you, we came to look!"

"By the rings of Saturn," swore Loring softly, "Jardine and Bangs were brave men. They practically forced us to pile out when they saw they were going to crack up." He turned to Mason. "Didn't they, Al?"

"Yeah, yeah, sure brave men," Al Mason agreed.

"Nothing to be done for them now, of course," said Stefens. "What happened?" He paused, and then added, "You don't have to tell me if you don't want to before you make out your report, but I'd sure like to know."

"I don't really know what happened, sir," said Loring. "We had made a deal for a ride back to Earth with Jardine and were sleeping back on the cargo deck. All of a sudden, Jardine came running in. Told us we were about to pile into the station and for us to suit up and get out. We asked him about himself, but he said he was going to stay and try to save the ship. We piled out, and—well, we saw the whole thing from out here. Like a big splash of light. It must have been pretty bad on the station, eh?"

"Plenty bad, but thanks to Cadet Corbett here, there wasn't a single injury. He warned everybody to get off that side of the station. A lot of damage but no casualties."

"Don't you have any idea what made the ship crash?" asked Tom quietly.

Loring looked at Tom but spoke to Stefens. "I told you all I know, sir. Can I expect to be questioned by everyone in the Solar Guard. Including cadets?"

Stefens bristled. "It was a civil question, Loring," he said stiffly, "but you don't have to say anything if you don't want to!"

Loring and Mason had not expected such a strong defense of the cadet, and Loring was quick to make amends. "I'm sorry—I guess I'm still a bit shaken up," he muttered.

Stefens grunted.

"It wasn't pretty, you know, watching that ship go up and not be able to do anything about it," Loring continued plaintively. "Jardine and Bangs—well, they're—they *were* sorta friends of mine."

They were silent all the way back to the station, each with his own thoughts—Stefens puzzling over the cause of the crash, Loring and Mason exchanging quick furtive glances and wondering how long their story would hold up, and Tom wondering how much Roger's changing the power circuits on the radar had to do with the crash of the ship.

"That's right," snapped Connel to the two enlisted spacemen. "I said I wanted the radar section of the communications deck closed and sealed off until further investigations. You can hook up and use one of the monitors in the traffic control meantime."

The two red-clad spacemen turned and walked away. Stefens stood to one side.

"Don't you think that's carrying things a little too far, sir?" he asked Connel.

"I'm doing this as much to protect Cadet Manning as I am to prosecute him! I want to be sure there was no connection between the crash of the *Annie Jones* and his tampering with the radar circuits!" Connel replied.

"I guess you're right, sir," replied Stefens. "Those two survivors, Loring and Mason, are having coffee in the mess if you want to talk to them."

"Did they change their story?" asked Connel.

"None at all. They were hooking a ride back to Atom City, and they were asleep in the cargo hold. Jardine, one of the pilots, came in and told them to pile out. They did."

"Ummmmh," mused Connel. "I know those two, Loring and Mason. Had a little trouble with them recently on a trip to Tara. Suspended their papers. So if they were just hooking a ride, it might be they're telling the truth!"

"I have a report here on the damage to the station, sir, if you'd like to listen to it," said Stefens, handing his superior a spool of audiotape.

"Good! Did you make out the report yourself?" asked Connel.

"Yes, sir. With the assistance of Terry Scott and Cadet Corbett."

"Good lad, that Corbett," said Connel and paused. "The whole unit is good! If it weren't for that hare-brained Manning, I'd say they had as bright a future in the Solar Guard as any unit I've seen!"

"I'll buy that, sir!" said Stefens with a smile. "That Corbett picked up traffic-control operations like a duck takes to water. And it's been a long time since Jenledge on the power deck raved about a cadet the way he does about Astro."

Connel smiled. He was reluctant to press for an investigation of the radar deck, knowing that if he did, it would mean a damaging black mark against Manning. But justice was justice, and Connel came closer to worshiping justice than anything else in space!

Connel placed the spool of tape in the audiograph and settled in a chair to listen. He didn't like the entire affair. He didn't like to think of losing a cadet of Manning's ability because of one stupid mistake. He had recommended a thorough investigation. There was no other way. If Manning was cleared of the responsibility for the crash, he was free, and it would not show up against his record. If he wasn't, however, then he'd have to pay. Yes, thought Connel to himself, as Stefens' voice began to crackle harshly on the audiograph, if Manning was guilty, then Manning would most certainly pay. Connel would see to that.

* * * * *

Deep in the heart of the space station, Loring and Mason were huddled over steaming cups of coffee whispering to each other cautiously.

"Want more coffee, Mason?" asked Loring.

"Who wants coffee when there's going to be a Solar Guard investigation?" whined Mason. "Suppose they find out something?"

"Relax, will ya?" muttered Loring reassuringly. "Connel doesn't suspect a thing. Besides, he has that cadet under arrest!"

"Yeah," argued Mason, "but you don't know those guys at Space Academy. All this honor stuff! It's not like a regular investigation. They don't stop digging until they dig up *real facts*! They'll find out we stowed away and…"

Loring calmly added cream and sugar to his coffee. "They can't prove a thing. Jardine and Bangs are dead, and the ship's nothing but a pile of junk."

"They'll find out, I tell you, and now we've got murder on our hands!"

A door behind Mason suddenly opened and Stefens appeared.

"Shut up, you fool!" Loring hissed. He turned blandly to face Stefens. "Well, Captain, glad you came. I wanted to talk to you about getting us transportation back to Venusport."

"You'll have to wait for the jet liner from Earth," said Stefens. "See me in about two hours. Right now, I've got to make arrangements for the investigation of the crash."

"Sure, sir," said Loring. "Ah—say, Captain, what do you expect the investigation to turn up?"

"The true facts," replied Stefens. "Whether the crash was due to the negligence of Cadet Manning or something that happened on the ship."

"Then you really think the cadet may be responsible?" asked Loring softly.

"He admits to negligence, and the *Annie Jones* is a lot of evidence," said Stefens with a shrug, and walked out.

"There's our answer!" said Loring triumphantly. "Come on!"

"Where are we going?" asked Mason.

"We're going to have a little talk with our fall guy!"

* * * * *

"Ahhh, sit down, Roger," said Astro. "Everything will be O.K."

"Yeah," agreed Tom. "You're just wearing out the deck and your nerves walking back and forth like that. Everything will be O.K." Tom tried hard to keep any apprehension out of his voice.

"Nothing will make those two guys on the spaceship O.K.," said Roger. He kicked viciously at a stool and sat down on the side of his bunk.

Since the crash, Roger had been confined to his quarters, with Tom and Astro bringing him his meals. Tom had watched his unit-mate grow more and

more bitter over the turn of events and was afraid Roger would do something rash.

The central communicator over the door suddenly buzzed, and the three cadets waited for the announcement.

"… Cadets Corbett and Astro report to rocket cruiser *Polaris* for indoctrination on hyperdrive—on the double—by order of Major Connel."

Tom and Astro got up. Astro found it hard to hide his eagerness to begin indoctrination on hyperdrive, and it was only his deep concern for Roger that kept him from letting out one of his bull-throated bellows.

"Take it easy, Roger," said Tom. "The investigation will be over and we'll be on our way to Tara before you know it."

"Yeah, you space Romeo," growled Astro, "crawl in the sack and rest your bones. You're lucky you can miss this."

Roger managed a weak smile. "I'll be O.K. Go ahead and learn about that hyperdrive before you explode."

There was an awkward moment while the three cadets stared at one another. The deep friendship between them didn't need to be expressed in words. Abruptly, Tom and Astro turned and left the room.

Roger stared at the closed door for a moment and then flopped on his bunk. He closed his eyes and tried to go to sleep. Whatever happened, he thought, it wouldn't do any good to knock himself out.

As he lay there thinking back to the first months at Space Academy when he had met Tom and Astro, he heard a knock on the door and he turned to see the steel hatch slide back stealthily. He jumped up.

Loring stuck his head inside the door. "You alone, Manning?" he asked.

"Yeah. Who're you?" asked Roger.

"My name's Loring, and this is my space buddy, Al Mason. We were on the *Annie Jones*."

Roger's eyes lighted up. "Then you know I'm not responsible for the crash!" said Roger.

"I wouldn't say that, kid," said Loring grimly. "I wouldn't say that at all."

"What do you mean?" demanded Roger.

"A shame"—Loring shook his head—"young fella like you winding up on the prison asteroid."

"Prison asteroid?" asked Roger stupidly.

"Yeah," grunted Loring. "Have you ever seen one of them joints, Manning? They work from noon to midnight. Then they give you synthetic food to eat, because it costs too much to haul up solid grub. Once you've been on the prison rock, you can't ever blast off again. You're washed up as a spaceman. Think you'll like that?"

"Why—why—what's that got to do with me?" asked Roger.

"Just this, kid. After the investigation they'll find out your radarscope wasn't working right. Then they'll come to me and ask me what happened aboard the *Annie Jones*."

"Well," demanded Roger, "what did happen?"

Loring glanced at Mason. "Just this, kid. Jardine and Bangs were on the teleceiver and the radar for fifteen minutes trying to pick up your beam. But there wasn't any, because you had it fouled up!"

Roger sat down on the side of the bunk and stared at the two men. If what they said was true, Roger knew there could only be one outcome to the investigation.

"Why are you telling me this?" asked Roger quietly.

"Very simple. I don't like to see *anyone* go to the prison rock!"

"Are you"—Roger hesitated—"are you suggesting that I escape?"

Loring and Mason got up and walked to the door. Loring turned back to face Roger. "I'm not suggesting anything, Manning," he said. "You're a big boy and should know what's good for you. But"—he paused and measured his words carefully—"if I were you, I wouldn't wait around for Connel or anyone else to blast my life to pieces by sending me to a prison for one little mistake!"

The hatch slid closed behind the two spacemen.

Roger stood up and began packing a small spaceman's bag. There was a jet liner coming in from Atom City that would make a stop at Venusport. He glanced at his watch. Thirty minutes. He didn't have much time.

CHAPTER 9

"Attention! Attention! This is a general alert!" Tom Corbett's voice was hollow as he spoke over a solar-wide audiocast. "Wanted! Space Cadet Roger Manning. Five feet, eleven inches tall, one hundred sixty-five pounds. Blue eyes. Blond hair. Last seen wearing dress blues. Cadet Manning broke confinement to quarters on Venus space station and is believed to be heading back to Earth. He is wanted in connection with the crash of the space freighter *Annie Jones* and the death of two spacemen. All information regarding the whereabouts of Manning should be forwarded to Captain Isaiah M. Patrick, Senior Security Officer, Solar Guard, Space Academy, Earth. This alert is to be transmitted to all local authorities."

Tom snapped the switch off and silently watched the glowing audio tubes darken. He turned to one side and saw Astro. The big Venusian was seated on a desk, slumped over, his head held in his massive hands.

"You know," said Astro slowly, "I could take that guy Manning and break him in two for running out!"

Tom didn't answer. When they had discovered that Roger was missing it had been a terrific blow. Unaware that Roger, in his confused state of mind, had been an easy victim to Loring and Mason's trickery and had innocently walked into their trap, the two cadets felt that his escape was a breach of trust. Roger had given his spaceman's word that he would confine himself to his quarters. Roger had broken that trust, and now the fact was being flashed around the entire solar system; Roger Manning was an escaped criminal!

"There's nothing we can do now," said Tom. "The whole universe knows it. He's finished! Washed up! The only thing that could save him now would be absolute clearance by the investigation. But since he's run out, I guess it must be the other way around. He was afraid he was going to get caught." Tom's voice was cold and bitter. "And we can't blame anyone but—"

"*But Manning!*" barked a voice behind them. Astro jumped up and snapped to attention. Tom turned to see Major Connel stride into the room. It was at Connel's insistence that Tom had been ordered to broadcast the alert for Roger.

"That's the last time I ever want to hear any sympathy for a man who broke his word!" snarled Connel.

"I have something I'd like to say to the major," said Astro in a deliberate voice, "as man to man!"

Even at attention, Tom jerked his head involuntarily to look at Astro.

Connel's eyes narrowed. "Here it comes," he thought. "Well, I've handled rebellion of this sort before." He stepped close to Astro. So close in fact that the black and gold of his uniform brushed the massive chest of the cadet from Venus.

"You have permission to speak, man to man!" snapped Connel.

Astro paused for a moment. Then he relaxed and brought his eyes down to the level of the major.

"I am a human being, sir," said Astro in the deepest voice Tom had ever heard. It was strong and full of emotion, yet controlled. "And as long as I am a human being, I shall consider Roger Manning one of the finest men I'll ever know."

"Are you finished?" snapped Connel.

"No, sir, I'm not," said Astro. "I speak in defense of the man, the *spaceman*, not the uniform, or the trust he betrayed. And I respectfully request of the major that if his feelings for Cadet Manning are so violent that he finds it difficult to control them, that he make a special effort to control them"—Astro paused and stuck out his chin—"in my presence!"

Connel stepped back. "And if I don't?" he shouted.

"Then I shall ask for a transfer from your command, sir, and if that is not granted, then I shall resign from the Academy."

"And?" asked Connel.

"And, sir—" Astro stumbled.

"*And what*, Cadet Astro?" roared Connel.

"I have nothing more to say, sir," said Astro.

Tom, who had at first had to control an impulse to laugh at the strange seriousness of Astro's manner and tone, now found it equally difficult to hold back the tears that were welling up in his eyes.

Connel was not going to let the incident stand there. He had secretly hoped that such a situation would present itself, because he wanted to see what material the *Polaris* unit was made of. And he was secretly satisfied. Any cadet who would offer to resign from the Academy in defense of his unit-mate was a true spaceman. Connel wasn't going to allow Astro or Tom to resign over some foolish trick of Roger's, but, at the same time, he couldn't allow them to take too many liberties with discipline. Connel turned to Tom.

"I suppose you feel the same way, Corbett?" he asked.

"I do, sir," said Tom.

"Of course you know I could make your lives miserable now," he threatened.

"We are aware of that, sir," said Tom quietly.

"Very well, Cadets Corbett and Astro. I shall comply with your request. Not because of your request but out of respect for your feelings as spacemen. I wouldn't have thought much of you if you hadn't come out in defense of Manning. And just for your own sake, Astro," said Connel, stepping back in front of the big cadet, "never ask to talk to a Solar Guard officer man to man

again. As long as you're still a member of the Cadet Corps such disrespect will not be tolerated. Another man, who might not have understood your feelings, could have used your desire for fair play as a means of trapping you into one of the worst offenses in the Spaceman's Code—striking a Solar Guard officer!"

"Yes, sir," mumbled Astro. "Thank you, sir."

"Report aboard the *Polaris*"—Connel glanced at his watch—"in fifteen minutes. I'm going to put you through your paces on hyperdrive and the operation of the transmitter."

"Then we're still going to make the trip to Tara, sir?" asked Tom.

"We certainly are, Corbett," replied Connel. "In two hours another cadet is arriving from the Academy to replace Roger. His name's Alfie Higgins. Perhaps you know him."

Tom smiled. "Yes, sir, we know him," he replied. "Cadet Higgins is a friend of mine. He carries the nickname of 'The Brain.' Has the highest I.Q. in the Academy."

"Good. I'm glad you know him, because this is going to be a rough trip. We got off to a bad start, but it's all over now. So forget it. And before I go, I want you to know this. In my personal opinion, Manning had nothing to do with the crash. I think the whole trouble was caused on the ship. I have nothing to back up my opinion, except my feelings. But feelings can go a long way in making a man innocent until proved guilty. Unit dis-missed!"

Alfie Higgins listened attentively to the story of the crash and Roger's disappearance as Tom, and then Astro, described the situation in detail.

"It is a pity, of course, but Manning was always the impulsive type. Not very definite in his attitude and emotionally unstable," commented Alfie when the story was finished.

"Lay off that talk, you overstuffed brain!" growled Astro. "In this outfit, Roger is just away on vacation!"

"Yes—yes, of course!" said Alfie quickly. It wasn't wise to get off on the wrong foot in a new unit, especially when one was trying to fill the shoes of a cadet, who, Alfie had to admit, had everything. Alfie Higgins' mother didn't raise any stupid children, he said to himself. He was too happy being a member of the *Polaris* unit, the hottest crew at the Academy, to allow anything to interfere with his success.

"I've heard a great deal about hyperdrive," he said quickly, changing the subject. "I would appreciate it if you could describe the basis of this new feature in space travel so that I may have at least a surface familiarity with its operation and application."

Astro gulped and looked at Tom. "Might as well get used to that kind of chatter, Astro," said Tom, smiling. "Alfie can't talk any other way."

"Is there something wrong with the way I speak?" asked Alfie, wrinkling up his nose a little to see through the thick lenses of his glasses.

"You wanta know about hyperdrive?" growled Astro.

"To be sure, if you'd be so kind," said Alfie.

"Well, if you'll close your trap long enough, I'll tell you about it!"

Alfie sat back and waited, hands clasped around one knee.

"In the first place," began Astro, "hyperdrive was developed by Joan Dale back at the Academy. And it's so blasted simple, I get mad at myself for not thinking of it first!"

"Uhhh," snorted Alfie. "I respect your great talent on the power deck, Astro, but I would hardly compare myself with Dale!"

"Shut up!" barked Astro. "You'll see how simple it is! Hyperdrive is based on the idea that the thrust of the rockets acts in the exact same way on *all* the atoms inside the spaceship. So you can have as much thrust as you want and no one will feel a thing. Even if the ship were to accelerate a million times faster than the gravity of the Earth you wouldn't feel a thing, because all the atoms inside would be pushed along at the same time!" Astro sat back triumphantly.

"Ummmmh," commented Alfie. "That sounds all right as a principle, but will it work out in space?"

"Listen, you—you—" snorted Astro.

"Sure it will, Alfie," said Tom. "It's been tested before."

"Still room for improvement, though," commented Alfie.

"I'll improve your head," barked Astro, "if you don't close that big mouth! How do you like that, Tom? We get rid of one space-gassing Romeo and now we get one even worse!"

Astro's reference to Roger made Tom draw a quick breath. In the short while since Alfie's arrival and the week since Roger's disappearance there hadn't been time to forget their old unit-mate and get accustomed to a new personality. Astro sensed Tom's feelings and irritably banged one hamlike fist into the other. Alfie was O.K., thought the big Venusian, but by the craters of Luna, he wasn't Roger.

"Attention—attention!" The intercom crackled into life. "*Polaris* unit—by order of Major Connel—stand by to blast off immediately. This is first warning! Pack your gear and stand by to blast off immediately."

Tom, Astro, and Alfie got up, and with the image of Roger fresh in their minds, made their way to the landing-port deck where the great gleaming spaceship was slung on magnetic cradles. They were met at the hatch by Major Connel.

"All right," he said, "we leave all thoughts of Manning right here on the station. I know it's tough, but we've got a still tougher job to do. This is to be a scientific expedition and we'll need every ounce of energy and intelligence we have—*collectively*—to make a success of this mission. Cadet Corbett!"

"Yes, sir," replied Tom.

"Stand by to blast off in five minutes!"

CHAPTER 10

"Can I speak with you a minute, spaceman?"

Roger turned from the automatic food dispenser and stared at a wizened little man standing beside him, grinning up at him toothlessly.

"What do you want?" asked Roger.

"Just talk. Let's sit down at this table, eh?" said the little man, taking the cadet by the arm. "Gotta little deal I think you might be interested in."

Roger cast a quick appraising glance over the shabbily dressed man and walked to the table. Unless someone knew Roger personally, it would have been hard to recognize him. No longer wearing the vivid blue of the senior Space Cadet, he was now dressed in black trousers fitting snugly around the legs, a midnight blue pull-over jersey, and the black-billed hat of the merchant spaceman. His once close-cropped blond hair was beginning to grow shaggy around the edges, and with the hat pulled low over his forehead, he might have been another person entirely.

Leaving the space station on the jet liner had been easy for Roger, since no one suspected he would violate his trust. But once his absence was discovered and the warrant issued for his arrest, it had been necessary for him to assume some sort of disguise to elude the Solar Guard MP's. Roger had wound up on Spaceman's Row in Venusport as a matter of course. Luckily, when he left the station, he had the foresight to take all of his money with him, so he was not yet in need.

On Spaceman's Row, Roger found the new freedom from discipline enjoyable at first, but now the novelty had worn off. Having visited all of the interesting places on the Row, existence there had become boring. His one attempt to leave Spaceman's Row had nearly met with disaster. Running into a squad of Solar Guard MP's, he had made a hurried escape into a near-by jet taxi. Back on the Row, Roger had lounged around the cafes, feeling the loneliness that haunts men wanted by the law. And only because he was so lonely he had agreed to talk to the little man who sat and stared at him from across the table.

"You a rocket pusher, astrogator, or skipper?" asked the little man.

"Who wants to know?" asked Roger cautiously.

"Look, sonny boy," was the quick retort. "I'm Mr. Shinny! I'm the fixer of Spaceman's Row. You want something, come to me and I'll get it for you. I don't care why you're here. That ain't none of my business. But the fact remains that you're here, and you don't come down here unless you're in

trouble space deep!"

Roger looked at the little man more closely. "Suppose I am in something deep? What could you do for me?" he asked.

"What would you want done?" asked Shinny slyly.

"Well," said Roger casually, "I could use a set of papers."

"What happened to your own?"

"Solar Guard picked them up," answered Roger simply.

"For what?" asked Shinny.

"Taking ice cream away from the skipper's pet monkey!" snapped Roger.

Shinny threw back his head and laughed. "That's good—very good!" He wiped his mouth after spitting at a near-by cuspidor. He reached over and patted Roger on the arm. "You'll do, sonny! You'll do right well on the Row. Join me in a little acceleration sport?"

"What's that?" asked Roger.

"Rocket juice!" said Shinny. "Ain't you never heard of rocket juice?"

"I've heard about it," said Roger with a smile, "and I'm still here to talk about it because I never drank any of it." Roger liked the little man for some reason—he couldn't tell why. He had met several people on the Row since his arrival, but they had all wanted to know how many credits he had and where he was staying.

"I took a jolt of that stuff once in Luna City," said Roger. "I was ready to blast off without a rocket ship!"

Shinny laughed again. "Good lad! Well, you won't mind if I have just a little one?" He paused and wiped his lips. "On you, of course!"

"One"—Roger held up his finger—"on me, of course!"

"Hey, there!" yelled Shinny. "You, with the asteroid head! Gimme a short bucket of that juice and bring a bottle of Martian fizz along with it!" The bartender nodded, and Shinny turned back to Roger. "Martian fizz is nothing more than a little water with sugar in it," he explained.

"Yeah, I know," replied Roger. "What about those papers?"

"I'll talk to you, spaceman to spaceman," said Shinny, "when you're ready to talk to me, spaceman to spaceman!"

They were silent while the bartender slopped a glass full of bluish liquid in front of Shinny and the bottle of Martian fizz and a glass in front of Roger. Roger paid for the drinks and poured a glass of the mild sweet water. Sipping it silently, he suddenly put the glass down again and looked Shinny in the eye.

"You know who I am," he stated quietly.

"Yep!" replied Shinny. "You're Roger Manning, Space Cadet! Breach of honor and violation of the Spaceman's Oath. Escaped from the Venus space station on a jet liner. But one of the best men on a radar scanner and astrogation prism in the whole alliance!" Shinny related the information rapidly.

"He had known all the time," thought Roger. "He was testing me." Roger wondered why.

"What are you going to do about it?" questioned Roger, thinking about the one-thousand-credit reward, standard price offered by the Solar Guard for all wanted men.

"If I had wanted to, I could have bought the finest jet liner in space with money made on Solar Guard rewards," snapped Shinny. "We got our own spaceman's code here on the Row. It goes something like this. What a man wants to bring with him down here, he brings. What he don't bring, don't exist!"

Roger smiled and stuck out his hand. "All right, Mr. Shinny! I want a set of papers—space papers! Made out in any name, so that I can get out into space again. I don't care where I go or on what, or how long I'm gone. I just gotta blast off!"

"You want papers for the astrogation deck, or control, or as a power pusher?" asked Shinny.

Roger thought a moment. "Better make them for the control deck," he said.

"Credits," said Shinny. "You have any credits?"

"How much?" asked Roger.

"One hundred now," said Shinny, and then added, "and one hundred when I deliver."

"Guaranteed papers?"

"Positively!" snorted Shinny. "I don't sell things that ain't good! I'm an honest man!"

Roger reached inside his jersey and pulled out a small roll of crumpled credit notes. He counted off one hundred and handed them over to Shinny.

"When do I get the papers?" asked Roger.

"Tomorrow, same place, same time," answered Shinny.

"What's the name of this place?" asked Roger.

"Cafe Cosmos."

Roger picked up his glass of sweet water, raising it in a toast to the little man in front of him. "Until tomorrow, Mr. Shinny, when you come here with the papers, or I come looking for you with bare knuckles!"

"You don't scare me!" snapped Shinny. "I'll be here!"

Roger tilted his chair back and smiled his casual smile. "I know you'll be back, Mr. Shinny. You see, I really mean what I say. And more important, *you* know I mean what I say!"

Shinny got up. "Tomorrow, same time, same place," he said, hurrying out the door.

Roger finished the bottle of Martian fizz, suddenly very depressed. He didn't really want the false papers. He just wanted to get away from the deadly humdrum existence on Spaceman's Row. He walked wearily back to his scrubby little bedroom to wait for night to come. He hated to go back to the room, because he knew he would think about Tom and Astro and the Space Academy. Now he couldn't allow himself to think about it any more. It was past. Finished.

* * * * *

"You got *who*?" asked Loring.

"I said I got the best astrogator in the deep for ya!" snapped Shinny.

Loring looked at Mason and then suddenly burst out laughing, dropping his head on the table.

"What's the matter with you?" demanded Shinny. "You got space fever or something?"

Mason, sitting quietly in the dirty hotel room, was grinning from ear to ear.

"So you got Manning for us, eh?" repeated Loring at last. "I wanta tell you something, Shinny. I was the one that got that kid to break outta that space station!"

"You what?" asked Shinny. The little spaceman had come to like the straightforwardness of Roger.

"That's right," said Loring. "When Mason and me loused up taking over the *Annie Jones*, that kid, Manning, was on the radar watch at the station. At the same time we were gonna crash into the station he crossed a coupla wires and was talking to his girl back on Earth! They think *he* fouled up the radar and caused the crash!"

"Then he's your fall guy," commented Shinny thoughtfully.

"Right," said Loring. "And now you come along and tell us that we can get him to astrogate us out to Tara! I tell ya, Mason, this is the greatest gag I've heard in years!"

"Yeah," agreed Mason, his weak mouth still stretched in a stupid grin, "but you have to be careful he never finds out it was us that got him into all his trouble!"

"Leave that to me," said Loring. "He'll never know a thing. In fact, he'll thank us for getting him off the station and then giving him a chance to get back in space." He turned to Shinny. "You got the ship?"

"I told you before," said Shinny, "there ain't anything to be had."

"Well, we gotta have a ship," said Loring. "A fortune waiting for us in the deep and no space wagon to go get it!"

"There *is* a ship," said Shinny. "Not too good, but a spaceship."

"Where?" asked Loring.

"Near Venusport. Out in the jungles, to be exact. Needs a little fixing, but it'll make a deep space hop well enough."

"Who does it belong to?" demanded Loring.

"Me," said Shinny, a strange twinkle in his eyes.

"*You?*" gasped Loring. "By the craters of Luna, where did you get a spaceship?"

"Fifteen years ago a freighter was forced down in the jungles right near

Venusport," said Shinny. "I was prospecting near by for pitchblende, back when everybody thought Venus was loaded with it. I saw the crew leave in jet boats. Soon as they was out of sight I went over to take a look. I wanted to see if there was any grub I could swipe and save myself a trip back to Venusport for more supplies. Anyway, I went aboard and found the grub all right, but I got nosy about why they had made an emergency touchdown. I looked around the power deck and found they had busted their reaction timer. I got the idea then of fixing it up and bringing it back to Venusport to give them young jerks a surprise. I lifted her off the ground and then figured why should I give it back? Just move it someplace else and let the vines and creepers grow over it for a few days."

"Didn't the crew come back looking for it?" asked Loring.

"Did they?" chortled Shinny. "I'll say they did! Almost drove them poor fellers crazy. I guess they searched for that old wagon for three months before giving up."

"And—and you mean it's still there—and in good condition?" asked Loring.

"Needs a little fuel," said Shinny, "and probably a good overhaul, but I don't think there's anything serious the matter with it."

"By the craters of Luna," exclaimed Loring, "we'll blast off immediately!"

"Hold on," said Shinny. "I didn't say I'd give it to you."

"Well, what do you want for it?" demanded Loring.

"Now let me see," mused Shinny. "I figure that if *you* figure to get as much as twenty million credits out of the copper, a full quarter share ought to be about right."

"Five million credits for a—a ship that's been rotting in the jungle for fifteen years!" exclaimed Loring.

"She's in good shape," defended Shinny. "I go out there every six months or so and turn over the reactors just to keep 'em from getting rusty."

"Why didn't you try to do something with it before?" asked Loring.

"Never had no occasion to," answered Shinny. "Well, is it a deal, or isn't it?"

"Too much," snapped Loring.

"That's my price," said Shinny.

"I could take the ship and not give you anything," sneered Loring.

"If the Solar Guard looked for three months in that jungle, with a hundred men and instruments, do you think you'll find it?"

"I'll give you a fifth share," said Loring.

"Nope," said Shinny, "I've named my price. You either take it or leave it!" He glared at Loring.

Mason finally spoke. "Take it, Loring," he said, "and let's get out of here. I'm getting jittery over that investigation that's coming up on the station."

"All right," said Loring, "it's a deal. One quarter share for the ship."

"Done!" said Shinny—"Now I guess we'd better go talk to that boy

Manning, eh?"

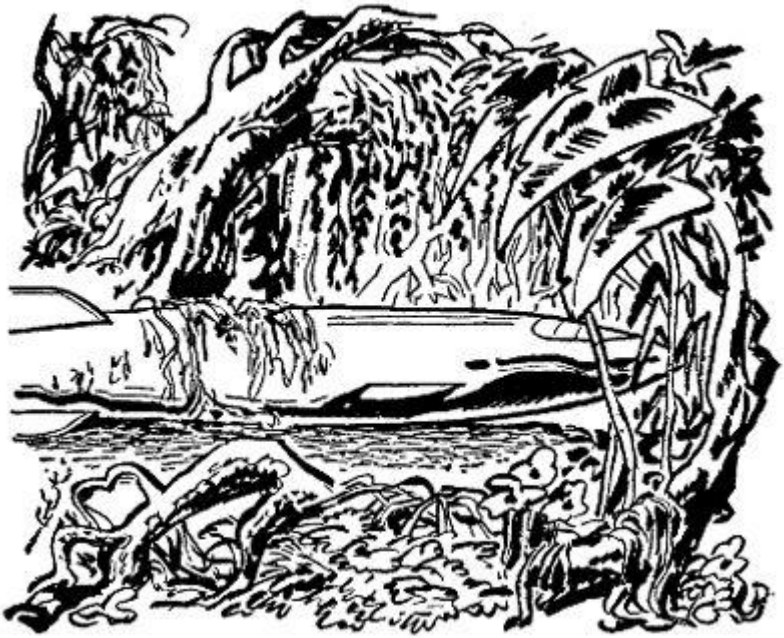
"Don't you think it'll be a little dangerous taking him along?" whined Mason.

"Yeah, maybe you're right," said Loring.

"If it was me," said Shinny, "I wouldn't give it a second thought. You're going into *deep* space. It ain't like a hop to Mars or Titan. This is as deep as you can go. If I was you, I'd want the best there is in my crew. And from what I've heard about that young feller, he's the best there is on the radar bridge. You know who his father was?"

"Who?" asked Mason.

"Ken—" Shinny suddenly closed his mouth tight. "Just another spaceman," he said, "but a good one!" He rose quickly. "Well, I'm supposed to meet Manning in an hour at the Cosmos."



The three men left the dingy hotel and walked out into the main street of Spaceman's Row. In a few moments they arrived at the Cafe Cosmos. Roger was already there, seated at the same table and watching the door. When he saw Loring and Mason with Shinny, he eyed them warily.

"Hiya, kid!" greeted Loring. "Glad to see you took my advice and got away from 'Blast-off' Connel." Mason waved a salute, and the three men sat down.

Roger ignored Loring and Mason, speaking directly to Shinny. "Did you complete our deal?" he asked softly.

"Nope," answered Shinny. "I brought you another one instead."

Roger held out his hand. "My one hundred credits—*now!*"

"Never mind the credits, kid," said Loring, "we've got more important things to talk about."

Roger continued to look at Shinny, his palm outstretched on the top of the table. "One hundred credits," he repeated coldly.

Reluctantly, Shinny handed over the money. Slowly, carefully, Roger counted the bills, and then, after putting them away, he turned to face Loring for the first time.

"You said you have something important to discuss with me?" he drawled.

"I see you learned fast, kid!" said Loring with a crooked smile. "I wouldn't trust Shinny as far as I could throw a comet!"

Mason laughed loudly. The other three merely glared at him, and he stopped abruptly.

"Here's the proposition, Manning," said Loring, leaning across the table.

"I've gotta ship and I wanta make a hop into deep space. I want you to do the astrogation!"

"I'm interested," said Roger. "Keep talking."

Briefly Loring described the copper satellite, its potential value, and what they expected to get out of it. Roger listened without comment. When Loring had finished, Shinny told him about the ship and its condition. When Shinny finished, Loring turned to Roger.

"Well, Manning," he asked, "how do you like the setup?"

"How much do I get out of it?" asked Roger.

"One twentieth of the take," said Loring.

"There are four of us. One full quarter-share, nothing less," drawled Roger.

"One-fourth to Shinny and one-fourth to him," whined Mason. "That only leaves us a fourth apiece!"

"That's more than you've got now," snapped Loring. "All right, Manning, you're in!"

Roger smiled for the first time. "When do we blast off?"

"As soon as we get that space wagon in shape we hit the deep!" said Loring.

"I think I need a drink on that," said Shinny. He yelled for the bartender, who brought rocket juice and Martian fizz.

Roger picked up the glass of the sweet water and glanced around the table.

"What's the name of that space wagon you've got buried in the jungles, Mr. Shinny?"

"Ain't got no name," said Shinny.

Roger paused, a slight smile playing at the corners of his mouth. "Then I propose we name her after the hearts of each of us here at the table."

"What's that?" asked Loring.

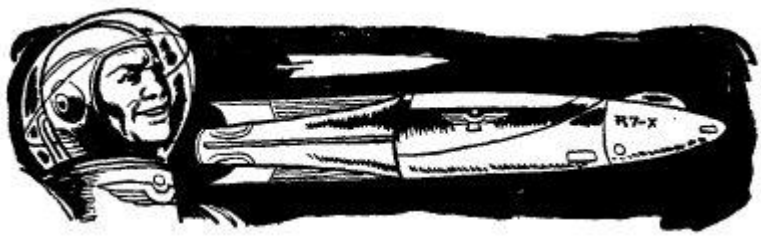
"*Space Devil*," said Roger.

Shinny grinned, his frail body trembling slightly from his silent laughter. He held up the glass of rocket juice.

"I propose a toast to the *Space Devil*!"

"To the *Space Devil*," said the others together.

"And whatever trouble she brings," added Roger softly.



CHAPTER 11

"Cadet *Higgins*!" Major Connel's voice roared over the ship's intercom as the giant rocket cruiser *Polaris* blasted smoothly through space.

"Yes, sir," squeaked Alfie in reply.

"Cadet Higgins," said Connel, "I thought I had requested a sight on the sun star Regulus at fifteen hundred hours!"

"You did, sir," replied Alfie.

"*Then why, by the craters of Luna, don't I have that position?*"

"I was—busy, sir," came the meek reply.

"Cadet Higgins," sighed Connel patiently, "would you be so kind as to come down to the control deck?"

In the short space of time since their departure from the space station Major Connel had learned that to scold Cadet Higgins was not the way to gain his attention. In fact, Major Connel had not been able to find a way of getting the little cadet's attention in any manner, at any time, on anything.

"I can't right now, sir," replied Alfie.

"What do you *mean*, you can't?" exploded Connel.

"I mean, sir," explained Alfie, "that I've just sighted Tara and I have to get a position check on her before we go any farther, to ensure that we traverse the same trajectory on our return trip and thus avoid the problem of finding a new and safe route back."

"Cadet Alfie Higgins"—Connel's voice climbed to a frenzied shriek—"if you are not on this control deck in ten seconds, I'll personally see that you are fed to a dinosaur when we touch down on Tara and you'll never return. *Now get down here!*"

Tom and Astro, who could hear the conversation over the intercom, were finding it very difficult to keep from laughing out loud at the innocence of Alfie and the outraged wrath of Major Connel.

Tom, particularly, had discovered that Alfie's innocent refusal to be bullied by Connel had made the time pass more quickly on the long haul through deep space. More than once he had seen Major Connel rage against the underweight cadet and become even more frustrated at his childlike resistance. It had helped Tom forget the empty feeling he experienced every time he called the radar deck and heard Alfie's mild voice instead of Roger's usual mocking answer. Astro, too, had managed to forget the loneliness he felt aboard the great cruiser by watching the antics of Alfie and Major Connel. More than once he had instigated situations where Alfie would get caught red-

handed in a harmless error, and then he lay flat on the power deck, laughing until his sides ached, as he listened to Alfie and Major Connel over the intercom.

It had helped. Both Tom and Astro admitted it had helped, but it still didn't take away the dull ache each felt when an occasional remark, situation, or thought would bring Roger to mind.

Tom flipped the teleceiver on and waited for the blank screen to show him Tara. Connel stood to one side, also watching for the image of the planet to take form on the gray-black screen. A hatch clanked behind them, and Alfie stepped into the control deck to snap to his version of attention.

"Cadet Higgins reporting, sir," he said quietly.

Connel stepped in front of him, placed his hands on his hips, and bent slightly, pushing his face almost into Alfie's.

"Cadet Higgins, I want you to know I have taken all the blasted space-brained antics I'm going to take from you," said Connel quietly.

"Yes, sir," replied Alfie blandly.

"And," said Connel, shaking a finger in Alfie's face, "*and* if there is one more—just *one* more brazen, flagrant disregard of my *specific* orders, then, Cadet Higgins, I promise you the most miserable trip back to Earth you will ever know in your entire career! I promise you I'll make you sweat! I'll—I'll —" Connel stopped short and shuddered. Alfie's owl-eyed look of innocence seemed to unnerve him. He tried to resume his tirade, but the words failed him. He finally turned away, growling, "Higgins, get up on that radar deck and do as you're told, *when* you're told to do it and *not* when you want to do it! Is that clear?"

"Yes, sir," said Alfie meekly. He saluted and returned to the radar deck.

"Corbett!" snapped Connel. "If I should appear to be losing control of myself when addressing Cadet Higgins, you have my official permission to restrain me. Use force if necessary!"

Tom bit his lip to keep from laughing and managed to mumble "Yes, sir." He turned quickly to the control board and began focusing on the planet lying dead ahead of the decelerating spaceship. They had been slowing down for several days, since their speed with the added hyperdrive had been increased greatly. The young cadet adjusted the last dial and the blue-green planet sprang into clear sharp focus on the screen.

"Why," gasped Tom. "Sir, look! It's just like Earth!"

"In more ways than one, Corbett," replied Connel. "What's our range?"

"I'd say we're close enough to reduce thrust to a quarter regular space speed, sir."

"Very well," said Connel. "Now look to the right on the screen. See that small dark patch over there in the middle of the planet?"

"Yes, sir," replied Tom.

"That's where we want to touch down," said Connel. "You stay here on the control deck and maneuver the ship closer in while I go to the radar deck and

contact Space Academy on the transmitter. I've got to report that we expect to land soon."

"Very well, sir," said Tom. He turned and flipped the intercom switch. "Control deck to power deck," he said. "Check in, Astro."

"Power deck here," replied Astro. "What's up, Tom?"

"We just got our first good look at Tara. She's dead ahead. Major Connel's going to contact Space Academy, and I'm going to maneuver into our preliminary glide. Stand by for course changes."

"Make it an easy touchdown. I wanta get home, you know," replied Astro good-naturedly.

"O.K.," said Tom. "Better bring her down to one-quarter space speed."

"Hyper or regular?" asked Astro.

"Regular!" yelled Tom. "You give me a quarter on hyper and we'll go right through that planet!"

"One-quarter regular space speed," replied Astro.

Tom adjusted his controls for the speed reduction, while keeping his eyes on the teleceiver screen. He watched the planet grow larger before his eyes, and the terrain become more distinct. He could see two large oceans, the green-blue of the water reflecting the sunlight of Alpha Centauri brilliantly. Nearer and nearer the *Polaris* plummeted, and Tom could begin to distinguish the rough outline of mountain ranges along the horizon line. He switched to a larger view of the planet on the magnascope that revealed a splendor rivaling the beauty of his own cherished Earth.

"We'll be entering the atmosphere in a minute, Alfie," yelled Tom into the intercom. "Stand by to give range for touchdown."

"Radar deck, aye," reported Alfie. "Range at present five hundred miles."

"Power deck, check in!" yelled Tom.

"Power deck, aye," returned Astro.

"All set below?" asked Tom.

"All set," said Astro.

"Reduce thrust to minimum!" shouted Tom.

Deep inside the powerful ship, the roar of the mighty atomic rocket motors began to fade to a deep growling purr.

"Control deck to radar deck. Major Connel, sir?"

"What is it, Corbett?" asked Connel.

"We're ready for a touchdown. Do you want to take over the bridge?"

"Can't you do it, Corbett?" asked Connel.

"Yes, sir!" replied Tom.

"Then carry on," replied Connel. "I'm having some trouble trying to get through to the Academy on the transmitter. Can't understand it." There was a pause. "I have them now, Corbett! You carry on!" he shouted.

"Aye, aye, sir," said Tom. He turned his attention to the control panel, checking the many dials and gauges with one sweeping glance, and then concentrated on bringing the ship to a safe landing on the foreign planet. His

fingers tingled as he reached for the switches that would bring the ship down on the first intergalactic world he had ever visited. In a flash, the curly-haired cadet remembered childhood dreams of doing just what he was doing at this moment, preparing to touch down on a new world, millions of miles away from his home near New Chicago.

"Range one hundred miles," reported Alfie over the intercom.

"Power deck, reduce thrust to absolute minimum!" ordered Tom. "I want as little sustaining power as you can give me without cutting out altogether, Astro."

"Can do!" said Astro. The ship slowed even more, then suddenly picked up speed again as the gravity of Tara began to tug at the space traveler.

"Stand by to fire braking rockets!" yelled Tom. He was all nerves now, sensitive to the throbbing of the great ship's motors, eyes fastened to the dials and meters on the control panel. There was no time to watch the scanner view of the onrushing planet now. He had to touch down blindly, using only his instruments. "Radar bridge, report!" snapped Tom.

"Range one thousand feet," reported Alfie, his calm voice in striking contrast to the nervous excitement in Tom's. "Seven hundred fifty—six hundred—five fifty—"

"Fire braking rockets!" rasped Tom into the intercom.

The great ship bucked under the sudden thrust of the huge braking rockets. The *Polaris* held steady for a moment, then gradually, as the pull of Tara began again, she settled back toward the dark-green jungles beneath her.

"Two hundred and fifty feet," reported Alfie. "One hundred and seventy-five—one fifty—" he droned.

"Ease her up, Astro," shouted Tom. "Easy! Ease her up, you Venusian clunk, we're dropping too fast!"

Once again, from the heart of the *Polaris*, there came a roaring blast of the powerful motors. The ship steadied once more and then slipped back into her fall toward the new planet under more sure control.

"Fifty feet," reported Alfie. "Forty—thirty—twenty—"

There was a brief pause, as if everything had stopped and they were held still by a giant hand, and then, suddenly, a rocking motion, a slight bump and rumble. Tom knew they were down.

"*Touchdown!*" he yelled at the top of his voice. "Touchdown! We made it —we made it!"

From the power deck, quiet except for the whining of the oxygen feed pump, Astro's bellow could be heard vibrating through the passageways.

"*Yeeeeeeeeeeeeeoooooooooooowwwwwww!*"

Tom began shutting off the many circuits and switches and made a quick last-minute check of the now dead ship. Satisfied, he glanced at the great solar clock, noted the time in the log, and stepped to the ladder leading to the radar bridge.

"Cadet Corbett reporting, sir," said Tom, saluting smartly. "I wish to report,

sir, that the *Polaris* made touchdown on the planet Tara at exactly seventeen fifty-nine, solar time!"

Connel, his great bulk bent over the tiny transmitter, was twirling the dials, his head encased in a vacuum earphone helmet to ensure perfect silence. He had acquired the knowledge of lip reading out of necessity on the power decks of the old chemical burners thirty years before, and while he couldn't hear what Tom had said, he knew what the report was.

"Very well, Corbett," he shouted, not being able to judge the volume of his voice. "Good job! Can't seem to pick them up at the Academy again. Had them once, then lost them. Am placing you in command of an expedition for a quick look outside. Arm yourselves with paralo-ray guns and rifles. Take a jet boat and under no circumstances are you to land. Dismissed! Oh, yes, one more thing. Take Alfie Higgins along with you and keep *your eye on him*. Report back in one hour!"

Tom felt a tingle of excitement run up his backbone as he heard the tough skipper give him permission to explore the planet.

He saluted and turned away, Alfie trailing him down the ladder.

"Hey, Astrooooo!" yelled Tom. "Get number-one jet boat out of the hatch. We're going for a look-see at this place!"

Tom went to the gun locker and took out three paralo-ray guns and rifles. He made sure each of them was fully loaded and then handed them to Alfie.

"Put these on the jet boat, Alfie. I'll be along in a minute."

Alfie took the guns and walked toward the jet-boat catapult deck. Tom returned to the radar bridge and stood before Connel.

"Would you see if there is any news of Roger, sir, when you make contact with the Academy?"

Connel read the cadet's lips and nodded his head. Tom turned and went directly to the jet-boat deck. Astro and Alfie waited for him inside.

"Brought along three space suits, Tom," said Astro. "You can never tell what we might run into."

"Good idea," said Tom.

The three cadets climbed into the jet boat, Tom taking the pilot's seat. He pushed a release button, and a portion of the *Polaris'* steel hull slid back. Tom pressed another button, gripped the wheel of the small space craft, and stepped on the acceleration pedal. The little red ship shot out of the open hatch and zoomed over the giant trees.

Traveling at a slow speed, Tom made a wide arc over the forest, checking his position against that of the *Polaris* before losing sight of it. He pulled the tiny ship up to one thousand feet, leveled off, set the automatic pilot, and took his first close look at Tara, four and a half light years from Earth.

From above, Tara seemed to be a quagmire of reptiles, dinosaurs, and dense vegetation reaching as high as the gleaming towers of Venusport and Atom City. Huge trees that spread their branches over an area of a thousand feet soared skyward, limbs and trunks wrapped in jungle creepers. Now and then

Alfie would grasp Tom or Astro by the arm and point a wavering finger at a moving animal below, then gasp and fall back white-faced into his seat. While Tom was inclined to share Alfie's reactions, Astro took it in stride, having been exposed to the dangers of wild jungles on his own Venus.

The tiny jet boat raced out across the blue-green sea that swept up in giant swells along the snow-white sandy beaches. It was a temptation to set the small craft down and enjoy the pleasure of a swim after the many days of cramped, tortured living on the *Polaris*. But Tom remembered Connel's orders and also had a lot of respect for some of the things he had seen swimming in the water.

"Better get back," said Tom. He flipped the audiophone switch in the jet boat and spoke into a small mike.

"Jet boat one to *Polaris*. Jet boat one to *Polaris*. Cadet Corbett to Major Connel."

There was a crackle of static and then Connel's voice, vibrant and clear, filled the small cabin.

"Corbett!" he roared. "By the craters of Luna, I couldn't contact you. Return to the *Polaris* on the double!"

"Is there something wrong, sir?" asked Tom, apprehensive after seeing the wildness of the jungle below him.

"Wrong?" blared Connel. "News from Earth—from the Academy! Roger's been cleared of all charges."

"Cleared?" stammered Tom.

"Absolutely! When I sealed the radar bridge after the crash, a security officer examined the settings on the scanners and transmitting equipment. They showed that Roger *had* been on duty at the time—that he had been tracking the ship as he claimed."

"Then what was the reason for the crash?"

"Security isn't sure yet. An acceleration control lever is missing from the wreckage. And it wasn't broken off as a result of the crash. Now Loring and Mason are wanted for further questioning."

Tom looked at his unit-mate, Astro. The big Venusian had his head turned to one side; he seemed to be staring out over the vast writhing jungle.

"Astro, did you hear?" asked Tom softly.

"Yeah," mumbled Astro in a small, choked voice. "Just don't ask me to turn around."

CHAPTER 12

"How much longer before we reach the atmosphere of Tara, Manning?" asked Loring.

Roger bent over the chart table and quickly measured the distance between his present position and that of Tara.

"About two hours," he said, straightening up.

"Good!" said Loring. "Let me know soon as we get close."

"O.K.," replied the cadet.

"Hey, radar deck!" Mason's voice came over the intercom from the power deck of the *Space Devil*. "Don't forget to let me know when I have to cut down on thrust!"

"Take it easy, spaceboy," snapped Roger. "You'll know in plenty of time!" He turned back to the radar scanner and continued the never-ending sweep of space ahead.

After a week of checking and reconditioning the *Space Devil* in the wild Venusian jungles, Roger had become more and more disgusted with himself. Being a wanted spaceman had had its disadvantages on Spaceman's Row, but working in the steaming jungles, fighting deadly reptiles and insects, with Loring and Mason on his neck every minute had soured his appetite for adventure. Several times, when Roger had suggested a certain part be replaced, Loring and he had argued violently, and Roger had threatened to quit. Now, after the long tedious trip through space, Roger's relationship with the others was more strained than ever. The sure dependability of Tom on the control deck and Astro on the power deck made the work of Loring and Mason sloppy by comparison. Once, when Roger had been on radar watch, while the ship roared through the asteroid belt, collision with a small asteroid had threatened. Roger ordered a course change, but Mason, who had taken over the power deck, had been asleep. Luckily, Shinny had been near by, had made the course change, and saved the ship. Seething with anger, Roger had gone to the power deck and given the shiftless spaceman a terrific beating.

Over and over, conflicts had arisen among them as they blasted through deep space, and always, it seemed to Roger, he was in the middle of it. The only satisfaction he could find in the hazardous venture was the prospect of the five million credits. And even this had lost its excitement in the last few days, as his nerves stretched to the breaking point. Only the sly humor of Shinny had saved Roger from the monotony of the long haul through space.

Roger absently flipped the scanner to its farthest range. He had been

observing the planet Tara for several hours and knew its shape fairly well. But he suddenly jerked to attention. His hands trembled slightly as he peered intently at the scope. Finally he slumped back. There was no doubt about it. On the scanner was a jet boat in flight.

"Hey, Loring! Shinny! Mason! Get up here on the double!" he yelled into the intercom.

"What's up?" demanded Loring.

"Get up here!" shouted Roger. "We're in for trouble—plenty of trouble!"

Presently the three spacemen were grouped around the scanner, staring at the unmistakable outline of a jet boat.

"By the rings of Saturn," declared Loring, "it must be Connel and his crew!"

"What're we going to do?" whined Mason.

Loring's face darkened. "Only one thing we can do now," he growled.

"What do you mean?" asked Roger.

"I mean that we're going to blast them!" Loring snarled. "Connel and whoever else is with him!"

"But—but—" stammered Roger, "the *Polaris* crew is down there!"

"Listen, Manning!" Loring turned to the cadet. "Have you forgotten that you're wanted by the Solar Guard? You give that bunch down there a chance and they'll make you a space crawler on prison rock!"

"Why—I—" stammered Roger. He knew what Loring had said was the truth. If it was Connel, there would be no question what would happen to him. He faced Loring. "What will you do to them?"

"One well-placed reactant bomb, and they'll never know a thing!" sneered Loring.

"But you don't have any bombs aboard," said Roger.

"A little of the fuel and I can build one easily enough," replied Loring. He turned to Mason. "Go below and suit up to go into the reaction chamber," he ordered. "Get an extra lead suit out. I'll go in and help you. And find something we can use for a trigger and a fuse." He smiled at Roger. "It might be a little crude, but it'll be fancy enough for what we want. I'm going to blast the *Polaris* from here back to your sweet little Space Academy!"

Mason and Loring left the radar bridge while Shinny and Roger watched the white blip of the jet boat.

"That could be Tom and Astro in that jet boat," said Roger softly to himself.

"I guess I'd better stand by the power deck while we maneuver," said Shinny. "We wanta stay hidden until Loring and Mason get that thing ready."

Roger nodded, and Shinny disappeared.

Maneuvering cautiously, Roger brought the *Space Devil* around to the night side of Tara opposite to the landing site of the *Polaris*.

Four hours later Loring and Mason came out of the reactant chamber carrying a small lead box. They placed it gently on the deck and began taking

off their lead suits. Roger and Shinny stared at the box.

"There she is," said Loring. "Not much to look at, but there's enough juice in there to blast the *Polaris* into space junk!"

"Wait a minute, Loring!" said Roger. "There'll be no killing! No one gets hurt!"

"Got a squeamish stomach, eh, kid?" Loring laughed. He slapped Mason on the back. "Our little Space Cadet is suddenly worrying about his friends. The same friends that wanted to send him away to the prison asteroid."

"Blast the ship if you want," said Roger coldly, "but don't hurt the crew!"

"Listen, Manning!" snarled Loring. "If the crew gets hurt it ain't my fault. If they're in the ship, that's tough. If not, then that's O.K. with me. I ain't sending them any letter telling them I'm going to blast their ship and then have them come up after me with a space torpedo!"

Roger didn't answer. He turned away and climbed back to the radar bridge. Loring followed him up the ladder.

"Don't get any ideas about warning your buddies, Manning, 'cause if you do, I'll blast you before I blast them!"

"Don't worry," replied Roger. "It's daytime on the other side of Tara now, where the *Polaris* is. The crew might be out on a scouting mission or making observations away from the ship. There's less chance of their being on the ship. If we're going to do it, let's get it over with!"

"O.K. with me," said Loring. "Take this wagon up toward Alpha Centauri a little way. Coming out of the sun, they won't see us. We'll use one of the jet boats to deliver our little present. I'll set the fuse, put the jet boat on automatic, and aim it right for the *Polaris*."

"All right," agreed Manning reluctantly. He turned to the chart table, plotted a course, and issued orders to Shinny at the controls and to Mason on the power deck. Soon the *Space Devil* was blasting away from the night side of the planet, heading toward the sun. When they reached an altitude of a thousand miles above the surface of the planet, Loring maneuvered the jet boat into position outside the ship and placed the crude reactant bomb inside. Ready, he gave Roger the signal to make the run out of the sun toward the *Polaris*. Roger relayed the orders to Shinny and Mason, and the *Space Devil* rocketed back toward the planet again.

Loring, sitting inside the jet boat, waited until they had reached an altitude of five hundred miles.

"All right, Manning," said Loring, "give me the course!"

Roger calculated the rotational speed of the planet, the *Space Devil's* altitude, and the speed of the jet boat. He drew a line between the *Space Devil* and *Polaris*, checked it on the astro compass, and reached for the intercom mike. He ran a dry tongue over his lips and called out the course.

"Course is one forty-three—" He caught himself and stared at the chart. Suppose Tom or Astro or anyone was near the ship? Even if he missed by several hundred yards, the bomb would certainly be fatal. If he only changed

the course one degree, at a range of five hundred miles, it would miss the *Polaris* by several miles. And Loring wouldn't be able to see anything because of the dust cloud.

"Course corrected," said Roger. "New course is one forty-two!"

"One forty-two!" repeated Loring.

Roger sat back and waited for the small space craft to blast off from the ship. In his mind, he saw Loring setting the trigger on the bomb, adjusting the controls, setting the automatic pilot, and then pressing the acceleration button. Roger gripped the sides of the chart table and stared at the radar scanner. A fast-moving blip was streaking across its surface. Loring had started the jet boat.

His eyes showing his great fear, Roger watched the blip as it sped down like a maddened hornet toward the *Polaris* resting on its directional fins in the green jungle. He could hear the hatch slam closed below as Loring re-entered the ship, but he continued to watch the rapidly moving blip.

Suddenly it disappeared, and Roger knew it had reached Tara. He slumped back in his chair. His eyes were glassy, his ears deaf to the roar of triumph from below as Loring and Mason, watching the flight of the jet boat on the control deck teleceiver screen, saw it explode. Roger couldn't move. He had fired a reactant bomb at Tom and Astro.

* * * * *

"By the craters of Luna," roared Connel, "we've been attacked!"

The four Earthmen, exploring a valley several miles north of the *Polaris*, had been thrown to the ground when the bomb landed. Connel's reaction was immediate and decisive.

"Get into the jet boat! All of you! We've got to get back to the *Polaris*! If our ship is smashed, we'll spend the rest of our lives fighting this jungle!"

In a matter of seconds the four spacemen were rocketing over the jungle toward the *Polaris*. Presently they came to an enormous dust cloud that had mushroomed out over the trees. It was so thick Tom found it difficult to pilot the small craft.

"Any danger of radioactivity in this dust, sir?" asked Astro.

"Always that possibility, Astro," answered Connel. "We'll know soon enough!" He flipped on a built-in Geiger counter on the dashboard of the jet boat, and immediately the cabin was filled with a loud ticking that warned of danger.

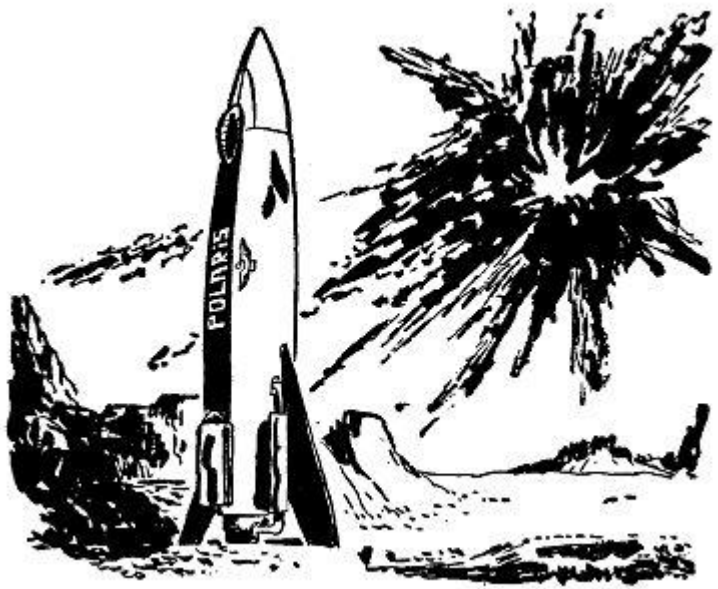
"The count is up to seven fifty, sir," said Astro. "Not enough to bother you unless you're in it a long time."

"There's the *Polaris*, sir," yelled Tom. "She's still on her directional fins!

They missed her! She's O.K.!"

"By the blessed rings of Saturn, she is!" exclaimed Connel. "Go on, Tom, give this baby the gun! If we have to die, let's die like spacemen, in space, fighting with spaceman's weapons, not crawling around here in the jungle like worms!"

The three boys smiled at their skipper's rousing statement. "This is the time," thought Tom, "when I'd rather have Major Connel in command than anyone else in the Solar Guard." If there was to be a fight, then they certainly had found the man who knew how to do just that! Fight!



Tom swooped over the treetops recklessly, and fearing the blast had damaged the jet-boat air lock, brought the small craft to rest in the blinding dust a few yards away from the *Polaris*.

Three minutes later the four spacemen had separated and were standing by their respective posts. Hasty but thorough checks were made to determine the damage, and finding none, they prepared to raise ship.

"All clear forward and up," Alfie reported in a high squeaking voice.

"Energize the cooling pumps," shouted Tom.

Astro had already started the mighty pumps, their vibrations rocking the ship, and Tom began counting the seconds.

"Stand by to raise ship. Minus five—four—three—two—one—

zeeroooooo!"

Paying scant attention to the crush of sudden acceleration, Tom gave the ship all the power she could take for the climb out of Tara's atmosphere, and soon they were rocketing through the airless void of space. Alfie and Connel hurriedly swept the area with the radar scanner for the attacking intruder.

"There she is!" roared Connel. "There!" He placed a finger on a white blip on the scanner. "By the craters of Luna, that's an Earth ship!" The fear of an outer-space invasion by hostile people from another world had been in the back of his mind, but he had been reluctant to voice his fears in front of the cadets. "And she's an old one at that!" he exclaimed. "Not even armed. I know that class vessel. Corbett!" he shouted.

"Aye, aye, sir," replied Tom.

"Put the ship on automatic flight, attack-approach pattern number three. Then stand by to send a message to whoever's manning that ship!"

"Aye, aye, sir!" replied Tom. He hurriedly set the delicate device that would fly the ship in a preplanned course of zigzag maneuvers and opened the circuits of the teleceivers.

"All set for the message, sir," reported Tom.

"Tell them," said Connel heavily, his voice cold, "whoever they are, that I'll give them two minutes to surrender. If they don't, I'll blast them into protons!"

"Very well, sir," said Tom. He turned to the teleceiver and began twirling the dials.

"Attention! Attention! Rocket cruiser *Polaris* to spaceship X. *Polaris* to spaceship X. You are ordered to surrender within two minutes or we will attack. By order of Major Connel, Senior Line Officer, Solar Guard."

He switched the teleceiver for reception and waited. In a moment the screen blurred and then an image appeared. Tom gasped. It was Roger!

"Tom, Tom," yelled Roger. "Tom, this is me—Roger!"

"Roger! What're you doing out here? How'd you get here?"

"I can't explain now," said Roger. "I—I—"

Tom interrupted him. "Roger, you've been cleared! The investigation of the crash on the station proved that Loring and Mason are guilty. They're wanted for the crash and the deaths of Jardine and Bangs!"

"What! You mean—" stammered Roger.

"Yes. Loring and Mason did the whole thing!" supplied Tom.

"Look, Tom," pleaded Roger, "give me ten minutes. Don't fire for ten minutes! I'm going to try an idea. If I'm not successful, then open up and blast us back to Mars!"

"Roger, wait!" shouted Tom. "What's going on? What're you doing on that ship?"

"I can't talk now," answered Roger. "Loring and Mason are on the ship with me. Remember—ten minutes—and if I don't contact you, then open fire!"

CHAPTER 13

Roger flipped off the teleceiver. He stared at the darkened screen and began estimating the chances of success for a plan he had in mind. Deciding that, regardless of what happened, he had to take over the ship, he got up and turned toward the hatch and the gun locker. He stopped cold. Loring stood framed in the doorway, a paralo-ray gun in each hand.

"Just stand right where you are, spaceboy!" snapped Loring. "You want ten minutes, huh? Ten minutes for what? I thought there was something funny going on when we missed the *Polaris* with that bomb!"

"You knew all along I didn't have anything to do with that crash back on the station, didn't you?" shouted Roger. His eyes blazed angrily.

"Yeah. So what?" growled Loring. "Hey, Mason," he yelled over his shoulder, "get up here in a hurry! We gotta work fast!"

"What are you going to do?" asked Roger.

"You're still valuable to us, Manning," said Loring with a crooked grin. "You're going to ensure our getting what we came after!"

Mason stepped through the door. "Yeah, Loring?"

Loring quickly told him of Roger's attempt to work with Connel.

"Take our spaceboy down below and lock him in a storage compartment." He handed over one of the paralo-ray guns, and Mason shoved the muzzle into Roger's stomach.

"Get moving, Manning!" he snarled. "I'd like nothing better than to let you have it right now!"

Roger smiled, knowing Mason still harbored a grudge for the beating he had taken earlier on the trip.

"When you have him locked up, get back on the control deck," said Loring. "We're going to do some old-fashioned bargaining with 'Blast-off' Connel!"

"Bargaining?" exclaimed Roger.

"Yeah! One slightly used Space Cadet for what we came after—the copper satellite!"

"Connel won't bargain," said Roger. "Not for me, not for anything. You don't know him!"

"I know this, Manning!" said Loring. "I'm going to get on the teleceiver and tell Connel that if he doesn't blast away from here *right now*, you're a dead Space Cadet!" He jerked his head toward the door. "All right, take him below and tell Shinny to stand by on the power deck. In case Connel won't bargain, we'll have to make a run for it!"

"Right," said Mason as he shoved the paralo-ray gun deeper into Roger's stomach. "Move, Manning!"

Roger climbed down the ladder and through the long passageway of the *Space Devil*. He passed Shinny on the way down.

"What's going on here?" demanded Shinny, seeing Mason with the paralo-ray gun.

"We missed with the bomb," said Mason, "and Connel raised ship. He's ready to blast us if we don't surrender right away. Loring's trying to make a deal with him."

"What kind of a deal?" asked Shinny.

"Hot-shot Manning for the satellite!"

"He hasn't told you everything, Mr. Shinny," said Roger in his casual drawl. "They are the ones who caused the crash of the *Annie Jones* and the deaths of Jardine and Bangs. They framed me!"

"Then," mused Shinny, "you're cleared?"

"Yeah," growled Mason, "he's cleared! Cleared for a long swim in space if Connel doesn't do what Loring tells him! Get in there!" Mason shoved Roger into the cramped storage compartment. He locked the door and turned to Shinny.

"Loring wants you to stand by the power deck in case Connel won't play ball. We might have to make a run for it."

"Yeah, yeah," said Shinny, "I'll stand by the power deck."

Mason turned and walked away. Shinny followed him, a curious gleam in his eyes.

Up on the control deck, Loring was twisting the dials in front of the teleceiver screen.

"*Space Devil* to *Polaris*—*Space Devil* to *Polaris*—come in, *Polaris*." He twisted another dial and watched the darkened screen anxiously. After a moment the screen blurred, and Tom's face gradually came into sharp focus.

"Loring!" gasped Tom. "Where's Roger?"

"Never mind him, you punk!" snarled Loring. "Tell that fatheaded Connel I wanta talk to him! Make it fast!"

Tom's face disappeared to be replaced by the raging features of Major Connel. "You murdering space rat!" he roared. "I've given you two minutes to surrender and, by the craters of Luna, you've only got thirty seconds left!"

"It'll only take ten seconds to tell you that if you don't get outta here Cadet Manning gets blasted!"

"What?" roared Connel.

"That's right," snarled Loring. "You're the one that's got thirty seconds to get out of here, or Manning takes a swim in space!"

"Why, you—" Connel's face was twisted with rage. "You can't threaten me!"

"I ain't threatening you," said Loring, "*I'm telling you!* If you don't get started, you'll never see Manning again. Or if you do, you won't recognize

him! Now make up your mind, Connel!"

The Solar Guard officer hesitated. "Give me two minutes," he said, "and I'll call you back. Two minutes."

"Two minutes," repeated Loring, "and if I don't hear from you by then, or if you try any funny stuff, Manning gets it!"

Aboard the *Polaris*, the screen darkened, and Connel, his fists clenched, turned to Tom.

"We're helpless, Tom," he said softly. "Now that we have proof of Roger's innocence, I have to do everything in my power to save him."

Tom didn't say anything. Suddenly Connel smashed one huge fist into another. "But by the blessed rings of Saturn, when I *do* get my hands on that Loring, I'll—I'll—" He broke off suddenly and turned back to the teleceiver. "I'm going to do what he wants, Tom. Roger's life is worth a dozen like Loring, and we'll have to take a chance that Loring will keep his word. After all," continued the big officer softly, "our mission is complete. We've tested the transmitter and found it to be more than we expected. No real reason why we should stay around here any longer."

"Yes, sir," stammered Tom. "Sir, I—I—"

Connel waved him silent with his hand. "You don't need to say anything, Tom. It's just one of those things. Still I can't help wondering what they came out here for." He turned to the dials on the teleceiver and began twisting them. "I'll call him, and you stand by to blast out of here."

* * * * *

Nicholas Shinny sat on the power deck and listened to Loring issue orders over the intercom.

"I don't know if Connel will go for it, or not," said Loring, "but just in case he doesn't, we gotta get outta here fast! You got that, Shinny?"

"Yeah," answered Shinny, "I got it!"

"Mason," yelled Loring, "you take over on the radar bridge!"

"All ready up here," said Mason.

"Well, be sure we've got a clear trajectory out. Better take us into the sun Alpha Centauri. That way, maybe they'll miss us on their radar. The sun will show all sorts of blips on their screen."

"O.K.," said Mason. "You think he'll go for it?"

"I don't know," answered Loring, "but if he doesn't, it's going to be space dust for Manning."

Shinny got up and walked around the deserted power deck. His legs felt weak. The plan he had made was a desperate one. Over and over, he checked the operation in his mind. It would have to be quick, sure, and sudden. That

was the only thing that would ensure success. "Yes, sir," he thought, "if we can surprise 'em, we can get away with it." He dug out a piece of chewing tobacco, took a bite, eyed the remaining piece, and then shoved the whole thing in his mouth. His cheek bulged.

He went to the intercom and flipped it on. "Hey, Loring," he yelled. "I've got to check the timer on number-three rocket. She's not acting just right. It'll take me about a minute."

"O.K.," came Loring's reply, "but make it snappy."

The timers were to the left of the control board, but Shinny turned to the right and the ladder leading to the lower deck. He eased the hatch open, glanced around, and then climbed down quickly. He stopped at a locker, opened the doors quietly, and took out two paralo-ray guns and two rifles. Then, closing the doors, he made his way to the opposite side of the ship.

"Hey, Manning!" he whispered through the closed storeroom hatch. "Can ya hear me?"

"Who is it?" asked Roger.

"Me—Shinny," hissed the wizened spaceman. He opened the hatch and Roger quickly stepped out.

"What's the idea?" gasped Roger when Shinny shoved a rifle and pistol into his hands.

"I ain't got time to explain now," said Shinny. "We've got to hurry if we're going to take over this tub."

Roger's eyes glowed. "You mean—"

"Never mind what I mean," said Shinny. "Just listen. Loring's on the control deck and Mason's on the radar bridge. Loring's just talked to Connel. He's trying to make him blast outta here. If Connel doesn't, Loring's going to dump you in space!"

"Yeah, I know. That murdering space crawler!" snarled Roger. He gripped the rifle tightly. "I'll blast him—"

"Now wait a minute," hissed Shinny. "You go up and get Loring, see? Make it look like you got out by yourself. If you can handle him, O.K. I'll stay in back, and if anything goes wrong, I'll back you up!"

"Fine," said Roger. He patted the spaceman on the back and smiled. "Don't worry, Mr. Shinny, nothing will go wrong!"

"Watch your step. That Loring is a smart cookie!"

Roger turned into the passageway and made his way silently to the control-deck hatch. He peered around the edge of the hatch and saw Loring sitting in front of the teleceiver screen, his back toward Roger. The cadet quickly stepped into the control room, leveled the rifle, and said quietly, "All right, Loring, keep your hands in view!"

Loring spun around and stared openmouthed at Roger. "Mann—" he gasped.

"Yeah, me!" said Roger. "Call Mason and tell him to come down here on the double. But one wrong move, Loring, and I'll give you a quick freeze with

this ray gun!"

Moving slowly, Loring turned to the intercom and flipped the switch. "Hey, Mason," he yelled. "Come down here a minute, will ya?"

"What do you want?" growled Mason. "I've got to figure out this course."

Roger stepped close to Loring, raising the gun.

Loring licked his lips and turned back to the intercom. "Don't gimme any back talk! I said get down here!"

Suddenly the teleceiver came to life. "*Polaris* to *Space Devil*! Come in, Loring! This is Major Connel on the *Polaris* calling Loring on the *Space Devil*!"

The suddenness of the voice startled Roger, and for a split second he took his eyes off Loring. In that instant Loring leaped for the boy, grabbing at the rifle. The quickness of his lunge caught Roger off guard and he was thrown back against the bulkhead, but he held onto the rifle as Loring tried to twist it out of his grasp.

"What th—" cried Mason from the ladder leading to the radar bridge. When he saw Roger and Loring struggling, he grabbed for the paralo-ray gun at his side. Just at that moment Shinny stepped through the hatch and fired his rifle. Mason was frozen into a rigid statue, unable to move.

"All right, Loring," yelled Shinny, "step back or I'll blast you like I did Mason!"

Roger wrenched the rifle out of Loring's grasp and stepped back. "Good work, Mr. Shinny!" he said to the little spaceman. "You sure figured it right!"

"Attention! Attention! This is Connel on the *Polaris*. Come in, Loring…"

Shinny looked over at Roger and winked. "Better answer him, while I get this joker locked up." He motioned to Loring who stood backed up against the bulkhead, his hands high over his head.

"You dirty double-crossing space rat!" he snarled at Shinny.

"Now, now, none of that," said Shinny, leveling the rifle. "If you get too noisy, I'll freeze you like I did Mason to keep your trap shut!"

Loring cast a sidelong glance at Mason, who stood as if carved out of marble. The effects of the ray blast were devastating, having paralyzed his entire nervous system. While the victim was still able to breathe and his heartbeat remained normal, he was unable to move so much as an eyelid. The gun was developed after all lethal weapons had been outlawed by the Solar Alliance. Though any victim could be released from its paralyzing effect by a neutralizing charge from the same gun, while under its power the victim was reduced to a state of mild hysteria. He was able to hear, see, and think, but not to act. When released, it was not unusual to see a man crumple to the floor from exhaustion.

Mason was frozen into a rigid statue, unable to move

Loring marched meekly in front of Shinny to the storage room that had held Roger. The cadet spaceman remained on the control deck. He twisted the dials of the teleceiver and spoke into the mike.

"*Space Devil* to Major Connel. Come in! This is Manning on the *Space Devil* calling Major Connel…"

"Manning!" shouted Connel. "I thought you were a prisoner!"

"Ah, it was nothing, skipper," said Roger blandly. "I just took over the ship—with a little help, of course!"

"A little help?" asked Connel. "From whom?"

Roger then gave the officer a complete review of what had happened to him since leaving the space station, finishing with Shinny's aid in his escape.

"Why would he want to help you?" asked Connel.

"I don't know, sir," replied Roger.

"Well, never mind," said Connel. "I suppose you two can handle that ship all right between you. Land on Tara as soon as you can. I'll get the details then!"

"Aye, aye, sir," replied Roger. Then, just before breaking contact, he yelled into the mike, "Hey, Astro—Tom! See ya in a few minutes!"

As the teleceiver screen darkened, Shinny reappeared. He had released Mason from the effects of the ray charge, and both Mason and Loring were safe in the storage room. He walked over and slapped Roger on the back.

"Well, it looks like we did it, sonny boy!" he said.

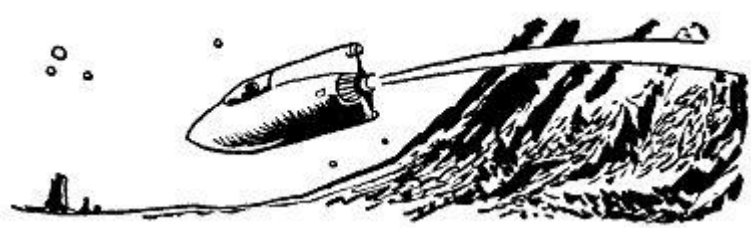
Roger turned to look at the wizened spaceman who still was chewing on the plug of tobacco. "What made you do this for me, Mr. Shinny?" asked Roger quietly.

"Tell ya a little secret," said Shinny, with a merry twinkle in his eye. "I was in the Solar Guard for twenty years. Enlisted man. Got into an accident and hurt my leg, but it wasn't in the line of duty, so I was tossed out without a pension. Ever since then I been kinda bitter, you might say. And, strangely enough, it was Major Connel that kicked me out."

"But you—you—" gasped Roger.

"Let's just say," said Shinny with a smile, "that once you're a Solar Guardsman, you're always a Guardsman. Now, how about getting this wagon down to Tara?"

"Yeah, yeah, sure," said Roger absently, his eyes trailing after the small limping figure. Once a Solar Guardsman, always a Guardsman, he thought. Smiling, he turned to the control board. He felt the same way. He was a Guardsman, and it was good to be back home!



CHAPTER 14

Major Connel paced nervously in front of the group of spacemen. Tom, Roger, Astro, Alfie, and Mr. Shinny were lounging around the small clearing between the *Polaris* and the *Space Devil*. A piece of thin space cloth had been stretched between the two ships to shield the men from the blazing sun. Connel stopped in front of Roger and Shinny.

"And you say the satellite is three-quarters solid copper?" asked Connel.

"Yes, sir," replied Roger, "at least that's what Loring and Mason told us."

"Where is it?" asked Connel. "I mean, where exactly?"

"I spotted her coming in, sir," replied Roger. "I'd say she was about three hundred thousand miles outside of Tara in perfect orbit."

"By the blessed rings of Saturn," exclaimed Connel, "it's almost too good to be true! The whole Solar Alliance needs copper desperately. And if what you say is true, that's enough to last for a hundred and fifty years!"

"Didn't you have any idea they discovered it, sir?" asked Tom. "I mean, when they took that unauthorized flight on your first trip out here?"

"Didn't suspect a thing, Tom," replied Connel. "I thought they had gotten a little space rocky on some homemade rocket juice and just went on a wingding. Imagine the colossal nerve of those two wanting to corner the market with the largest deposit of copper ever found."

"How do you plan to get it back, Major?" asked Shinny.

"I don't know, Shinny—"

"*Mr.* Shinny!" snapped the wizened spaceman. "*I'm* not one of your cadets!"

"Still the hotheaded rocket buster, eh?" asked Connel, eying the toothless spaceman. "It was the same thing that got you kicked out of the Solar Guard twenty years ago!"

"Wasn't either! And you know it!" snapped Shinny. "You retired me because I busted my leg!"

"That helped," said Connel, "but the main reason was because you were too hotheaded. Couldn't take orders!"

"Well," said Shinny doggedly, "I ain't in no Solar Guard now, and when you talk to me, it's *Mr.* Shinny!"

"Why, you old goat!" exploded Connel. "I ought to arrest you for aiding criminals!"

"You can't do a thing to me," barked Shinny. "Prospecting is prospecting, whether it's in the asteroid belt or out here on Tara!"

Unable to hold back any longer, the four space cadets suddenly roared with laughter at the sight of the two old space foes jawing at each other. Actually, Connel and Shinny were glad to see each other. And when they saw the boys doubled up with laughter, they couldn't help laughing also. Finally Connel turned to Roger.

"Can you find that satellite again?" he asked.

"Yes, sir!" Roger grinned.

"All right, then," said Connel finally, "let's go take a look at it. I still won't believe it until I see it!"

"Who's hardheaded now?" snorted Shinny, climbing into the *Polaris*.

Later, as the rocket cruiser blasted smoothly through space, Connel joined Roger and Alfie on the radar deck. The two cadets were bent over the radar scanner.

"Pick her up yet?" asked Connel.

"There she is, right there, sir," said Roger, placing a finger on a circular white blip on the scanner. "But the magnascope shows pretty rugged country. I think we'd better take a look on the opposite side. Maybe we can find a better place to touch down."

"Very well, Manning," replied Connel. "Do what you think best. Tell Tom to land as soon as possible."

"Aye, aye, sir," replied Roger.

Leaving Alfie on watch at the scanner, Roger hurried down the ladder to the control deck where Tom was seated in front of the great board.

"Tom," called Roger, walking up behind his unit-mate, "we're going to take a look at this baby on the other side. See if we can't find a better place to touch down. Stand by to pick up the surface of the satellite on the teleceiver as soon as we get close enough."

"O.K., Roger," said Tom. "Where are you going?"

"Down to Loring and Mason in the cooler! I want to see their faces when I tell them they finally are getting where they wanted to go, but under slightly different circumstances!"

Tom laughed and turned back to the board. "Power deck, check in!"

"Power deck, aye," replied Astro. "When do we set down on the precious rock, Tom?" asked the Venusian.

"Should be soon, Astro," said Tom. "Better stand by for maneuvering."

"Right!" replied Astro.

Tom turned his full attention to the control board and the teleceiver screen above his head. He was happier than he had ever been in his life. The report sent back to Space Academy by Major Connel had been answered with a commendation to both Roger and Shinny for capturing Loring and Mason. With Roger back in the unit, Tom was at peace. Even Alfie was overjoyed at seeing Roger back aboard the *Polaris*.

And Tom had noticed that Major Connel was beginning to call them by their first names!

"Radar deck to control deck!" said Alfie. "From casual observations, Tom, the surface of the far side of the satellite is more suitable for a touchdown. I would suggest you observe the planetoid yourself with the magnascope and draw your own conclusions."

"O.K.," replied Tom. He switched the teleceiver screen on to the more powerful magnascope and studied the surface of the small celestial body. He saw a deep valley with a flat hard surface set between two tall cliffs. It would be a tricky spot for a landing, but it looked like the best place available. Tom snapped open the intercom.

"Attention! Attention! Stand by for touchdown. Power deck stand by for deceleration. Radar bridge stand by for range and altitude checks!" Sharply, crisply, Tom's orders crackled through the ship.

Working together with the ease and thoroughness of men well acquainted with their jobs, Astro and Shinny on the power deck, Roger and Alfie on the radar bridge, and Tom on the control deck handling the delicate maneuvering, combined to bring the great ship to a safe landing on the dry valley floor of the satellite.

"Touchdown!" yelled Tom and began securing the ship. Two minutes later the entire crew faced Major Connel for briefing.

"We'll all go out to different parts of the satellite and make geological tests," announced Connel. "We'll pair off, two to a jet boat. Astro and Roger, Alfie and Mr. Shinny, Tom and myself. This is a simple test." He held up a delicate instrument and a vial full of colorless liquid. "You simply pour a little of this liquid, about a spoonful, on the ground, wait about five minutes, and then stick the end of this into the spot where you poured the liquid." He held up a two-foot steel shaft a quarter inch in diameter, fastened to a clock-face gauge with numbers from one to a thousand. The other end of the shaft was needle sharp. "When you stick this into the ground, there'll be a reading on the meter. Relay it to me. This way well get an estimate of the amount of copper in a three-mile area for a depth of a hundred feet. It must be more than two hundred tons per square mile to make it worth while!"

He held up the testing equipment for all to see and explained its use once more. Then, giving each team a kit, he ordered them to the jet boats.

Just before the crew of Earthmen left the *Polaris*, Connel gave them last-minute instructions.

"Report back to the *Polaris* in one hour. Make as many tests as you can over as wide an area as possible. Don't forget to leave one man in the jet boat while the other is making the test. Keep your audio communicator in the jet boat on at all times. And be sure your belt communicator is always open. Check your oxygen supply and space suits. All clear?"

One by one, the spacemen checked in through the audio communicators that all was clear. The sliding hatch on the side of the *Polaris* was opened, and the jet boats blasted out into the brilliant sunlight of Alpha Centauri, going in three different directions.

Tom piloted his small craft over the rugged surface of the satellite, circling the larger peaks and swooping into the small valleys. Connel would indicate when it was time to stop, and Tom would set the craft down. While Connel made the tests, Tom would talk to the others over the audio communicators. The three small ships covered the satellite quickly in evenly divided sections, reporting their readings on the needlelike instrument to Connel, who kept recording the reports on a pad at his knee.

An hour later the boats returned to the *Polaris* and the Earthmen assembled in the control room. Connel, Tom, and Alfie were busy reducing the readings of the tests into recognizable copper ton estimates per square mile.

Finally Connel turned around, wiped his brow, and faced the others.

"This is one of the greatest discoveries for Earthmen since they learned how to blast off!" The big officer paused and then held up the results of the tests. "This satellite is *really* three-quarters solid copper!"

There was a loud mumble as everyone began talking at once.

"How are we going to get it back home, sir?" asked Tom. "Wouldn't hauling it back in spaceships cost too much?"

"Yes, it would, Corbett," answered Connel, "but I've got an idea how we can lick that problem."

"Can't see how you can lick it," snorted Shinny, "unless you take the whole blasted satellite back!"

"That's exactly what I'm going to do!" answered Connel.

"What?" exclaimed Roger, momentarily forgetting he was addressing a senior officer. "How in blazes are you going to do that?"

Connel turned to the chart-screen projector and switched it on. Immediately an image of Earth and its Moon, and much farther away the sun, was visible. Connel stepped to the screen and pointed to Moon.

"The Moon is a captive satellite of Earth, revolving around Earth the same way Earth revolves around the sun. It's the same situation we have here. This satellite is a captive of Tara, and Tara is a captive of Alpha Centauri. The difference is that the satellite is a peanut compared in size to the Moon, being only about fifteen miles in diameter. I'm not sure, but I think I can get enough reactant energy out of the *Space Devil's* fuel supply to blast the satellite out of Tara's grip and send it back to our solar system in one piece!"

"You mean, sir," asked Tom, perplexed, "you'll tear the satellite out of Tara's gravitational pull?"

"That's right, Tom," replied Connel, "using the same principle to clear gravity that we use on the *Polaris* or any spaceship. Enough power from the rockets will blast the *Polaris* off Tara. Well, if you can get enough power, you can blast this satellite out of Tara's grip also, since the only thing holding it here is the gravity of Tara—the same thing that holds the Moon in orbit around Earth!"

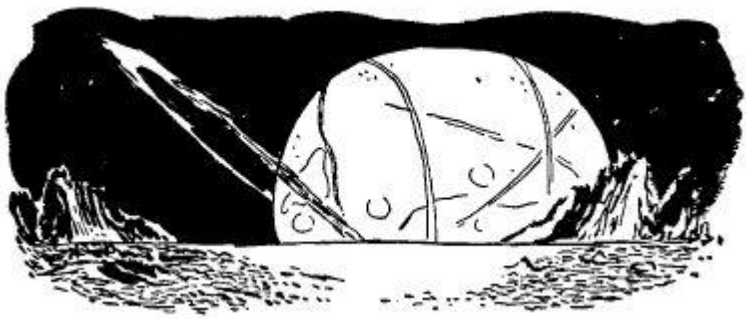
Astro's eyes bulged. He looked at Connel blankly. "Why, sir," he stammered, "it'd take—take—a *ton* of reactant fuel to pull something that size

away from Tara. The *Polaris* is a kiddy car in comparison!"

"You're right, Astro," said Connel, "but there's one thing you've forgotten. The copper of the satellite itself. That's going to be the main source of power. The reactant fuel from the *Space Devil* will serve only as a starter, a trigger, you might say, to make use of the copper as fuel!"

Once again Astro gasped. "Then—then—there isn't anything to stop you, sir," he finished slowly.

Connel smiled. "I know there isn't. I'm going to contact Space Academy now for permission to pitch the biggest ball in the history of man!"



CHAPTER 15

"Well, I'll be a star-gazing lunatic!" exclaimed Roger a few minutes later. "You really think that you can blast this satellite out of its orbit?"

"Not only that, Manning," said Connel with a smile, "but I might be able to get it back to our sun faster than we could get back ourselves."

"Why that would be the biggest project ever attempted by man, sir," said Tom. "You'd be transporting an entire satellite from one star system to another!"

"That's right, Corbett," said Connel. "I've just finished talking to Space Academy and they've given me permission to do anything I think necessary to accomplish just that. Now pay close attention to me, all of you. We haven't much time."

Tom, Roger, Astro, Alfie, and Mr. Shinny gathered in a close circle around the major on the control deck of the *Polaris* and watched him as he drew several rough diagrams on a piece of paper.

"Getting the satellite back is the trickiest part of the whole operation. Astro, are you sure you made a correct estimate on the amount of reactant fuel in the *Space Devil*?"

"Yes, sir," replied Astro. "I checked it four times, and Mr. Shinny checked it, too!"

"All right, then, listen," said Connel. "I've given the satellite a name. From now on we call it Junior. And this will be known as Junior's Pitch! I've explained how Junior is a captive satellite revolving around Tara, the same way our Moon revolves around Earth. We have two problems. One is to blast it out of Tara's grip. And the other is to take advantage of Tara's orbital speed around its sun Alpha Centauri, *and* Junior's orbital speed around Tara. We've got to combine the velocities of the orbits, so that when we do spring Junior loose, he'll gain in speed!"

"But how do we get the orbital speeds to help us, Major?" asked Alfie. His glasses had slipped to the very end of his nose.

"If you'd give the major a chance, he'd tell you, Big Brain," drawled Roger. Alfie gave Roger a withering look and turned back to the major.

"Do you remember when you were kids and tied a rock on the end of a rope and then swung it around your head?" asked Connel.

"Sure, sorta like a slingshot," said Astro.

"That's right, Astro," said Connel, "and if you released the rope, the rock would fly in the direction it was headed, *when you let go*!"

"I get it," cried Tom excitedly. "The gravity of Tara is the rope holding Junior—ah"—he fumbled—"making it swing around!"

"And the reactant power of the *Space Devil* placed in the right spot would be the trigger to make it let go!" commented Roger.

"It's as simple as that, boys!" said Connel with a smile.

"But how in the blazing beams of the sun are you going to *stop* that blasted thing when you get it rolling?" asked Shinny.

"The chances of Junior hitting anything on the way home are so small it doesn't present a problem. So we just aim Junior for our solar system! Later on, arrangements can be made to steer it into an orbit around our sun."

"You know," wheezed Shinny, his merry eyes twinkling, "that sounds pretty neat!"

"It is," replied Connel. He leaned against the control-board desk top and folded his arms across his massive chest. He looked at each of the cadets and Shinny a long time before speaking. Finally he stepped forward and stood among them, turning now and then to speak directly to each of them.

"We have only four days, five hours, and some few minutes to pull Junior out of Tara's grip, and later, the grip of Alpha Centauri. You boys will have to work as you've never worked before. You'll do things you never dreamed you could do. You'll work until your brains ache and your bodies scream. But when you're finished, you will have accomplished one of man's greatest challenges. You're going to do all this because I know you can—and I'm going to see that you do! Is that clear?"

There was a barely audible "Yes, sir" from the cadets.

"The six of us, working together, are going to send a hunk of copper fifteen miles in diameter hurtling through twenty-three million million miles of space, so let's get that ball rolling. *Right now!*"

With Major Connel roaring, pleading, and blasting, four young cadets and a derelict spaceman began the monumental task of assembling the mass of information necessary for the satellite's big push through space. During the three days that their project had been under way, Tom, Roger, Astro, Alfie, and Mr. Shinny worked, as Major Connel promised, as they had never worked before.

Late in the afternoon of the third day Connel stepped through the hatch of the control deck where Tom was busy over a table of ratios for balancing the amount of thrust from each of the reactant-power units. The power units were to give Junior its initial thrust out of the gravity of Tara.

"Well, Corbett," asked Connel, "how're you making out with the ratios?"

"I've finished them, sir," replied Tom, looking up at the major. His face was drawn, his eyes red from lack of sleep. "But I just can't seem to get a time for escaping the orbit on a true tangent."

"Have you tried making an adjustment for the overall pull of both components?" asked Connel. "That of Tara and of Alpha Centauri on Junior?" He picked up the paper Tom had been working on and glanced over the

figures.

"Yes, sir," replied Tom, "but I still can't seem to make it come out right!"

"You'll get it, Tom," said Connel. "Go over it again. But remember. Time's running out. Just one day and about twenty hours left." Connel's voice was friendly—more friendly than at any time Tom could remember. He smiled, and taking a fresh sheet of paper, he began the complicated calculations of escape time all over again.

Connel slipped out of the control room and went below to the power deck, where Astro and Mr. Shinny had been working without sleep for over fifty hours. When Connel slipped into the room he found the two men puzzling over a drawing board.

"What seems to be the trouble, Astro?" asked Connel.

Astro turned, startled. "We've tried building that lead baffle for the reactant units five times now, sir," said Astro. "We're having a hard time getting the correct amount of reactant power we need in a unit this small."

"Maybe you're trying to make it *too* small, Astro," commented Connel, looking over the drawing. "Remember, this unit has but one job. To *start* the reaction. When the reaction fuel gets hot enough, it'll start a reaction of the copper on Junior and sustain itself. Try a smaller amount of the reactant. But whatever you do, keep working. Only a day and a few hours left."

Connel looked at Shinny. "Keep him working, Mr. Shinny," he ordered. "I know he can do it. Just keep him going."

Shinny grinned and nodded.

"I'll try, sir," said Astro, shaking his head, "but I won't guarantee it—"

Connel cut him off with a roar. "Cadet Astro, I don't want your guarantee! *I want that unit. Now build it!*"

Hour after hour the cadets racked their brains for what seemed like impossible answers to an impossible task. Working until their eyes closed fast shut, they would lie down right where they were—power deck, control deck, or radar bridge—and sleep. They would awake, still groggy, drink hot tea, eat cold sandwiches, and continue their struggle with time and astrophysics.

One by one, the problems were solved and set aside for newer ones that arose on the way. Each cadet worked in his particular field, and all of their information was assembled and co-ordinated by Major Connel. More than once, Connel had found the clever minds of his cadets reaching for answers to questions he knew would have troubled the professors back at Space Academy. Connel, his eye on the clock, his sharp tongue lashing out when he thought he detected unclear thinking, raced from one department to another while the incessant work continued. On the morning of the fourth day he walked into the radar bridge where Roger and Alfie had been working steadily for seventy-two hours on an electronic fuse to trigger the reactant units.

"There you are, skipper," said Roger. "The fuse is all yours. Delivered twelve hours ahead of time!"

"Good work, Roger. You too, Alfie. Excellent!" said Connel, his eyes

appraising the fuse.

"Ah, that's nothing, skipper," said Roger with a smile. "Anyone could have done it with Alfie here to help. He's got a brain like a calculator!"

"Now, I want to see how smart you two really are!" said Connel.

"Huh?" asked Roger stupidly. Alfie had slumped to the deck, holding his head in his hands.

"I want a communications unit," said Connel, "that can send out a constant beam, a signal Space Academy can pick up to follow Junior in transit back to Earth."

"In twelve hours?" exploded Roger. "Impossible, skipper!"

"*Cadet Manning*," roared Connel, "I don't want your *opinion*, I asked for that *unit*!"

"But one day, sir," said Roger. "Not even a day. Twelve hours. I can't, sir. I'm sorry. I'm so tired I can't see straight."

Alfie let out a low moan.

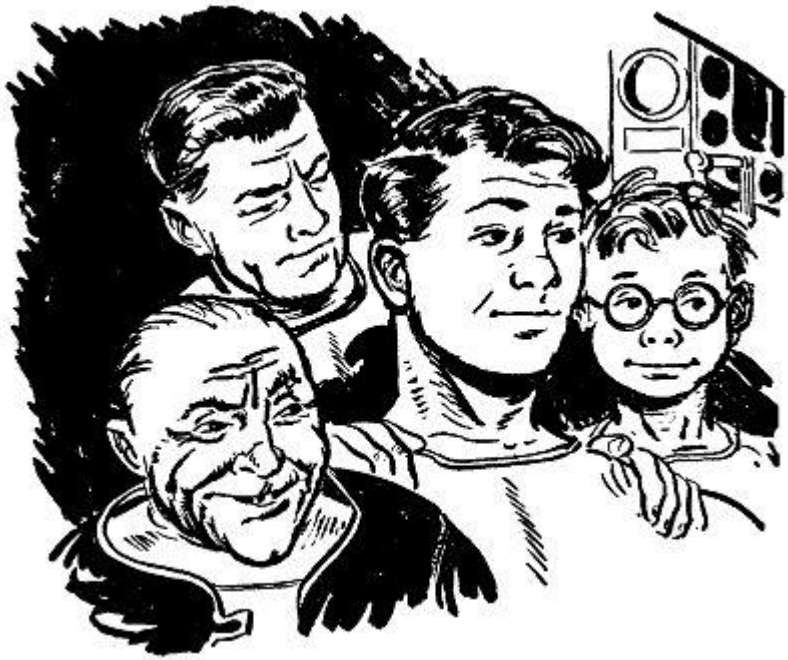
Connel studied the two cadets. He was aware that he had already asked them to do the impossible, and they had done it. And they deserved to be let alone. But Major Connel wasn't himself unless he had given every ounce of energy he had left, or the energy left in those around him. He patted Roger on the shoulder and spoke softly.

"Roger, did I ever tell you that I think you have one of the finest brains for electronics I've ever seen? And that Alfie is sure to have a brilliant future in astrophysics?"

Roger stammered. "Why—ah—thank you, sir—"

Alfie looked up at Connel and then struggled to his feet.

"You know, Roger," he said haltingly, "if we took that unit we came out here to test—you know, the transmitter unit—"

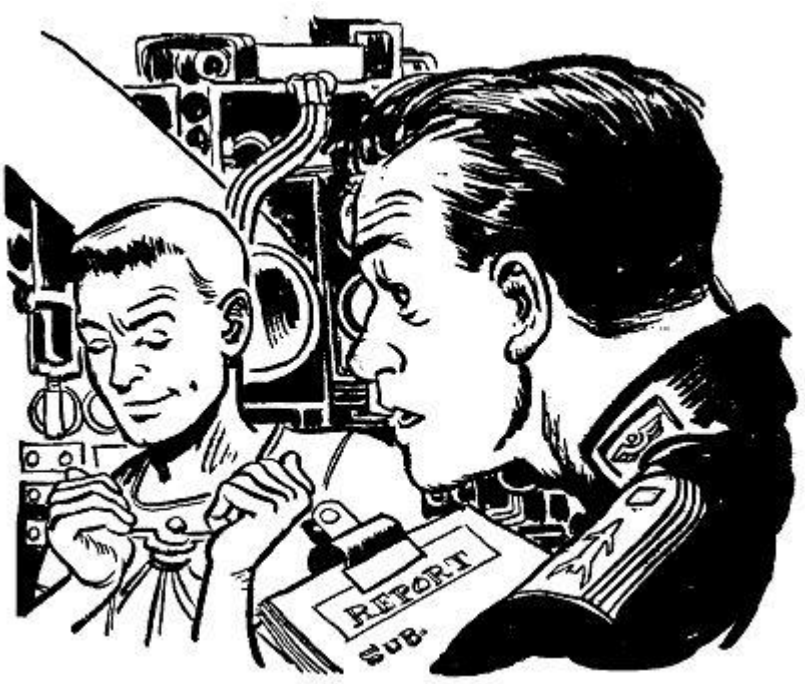


Roger cut him off. "Yeah, I was just thinking the same thing. We could borrow some of the reaction mass that Astro got out of the *Space Devil* and use that as a power source."

Connel backed away from the two cadets and tiptoed off the bridge. He smiled to himself. He was going to win his race with time yet! And he was going to do it because he had learned long before that you could only push a man so far, then you had to sit down, pat him on the back, tell him how smart he was, and he would push himself. Connel almost laughed out loud.

Six hours later Connel sat in his quarters puzzling over one of the many minor problems of Junior's Pitch when he heard footsteps behind him. He turned. Astro, Tom, Roger, Alfie, and Shinny walked silently into the room. Connel stared.

"Wha—what is it?" he demanded.



"We're finished, sir," said Tom simply.

"Finished?" exploded Connel. "You mean—"

"That's what he means, skipper," said Shinny. His eyes were bloodshot for want of sleep, but there was a merry twinkle left tugging at the corners.

"Everything?" asked Connel.

"Everything, sir," said Roger. "The power units are built and the fuses installed. All it needs is to be set. Tom's worked out the ratios and the amount of reactant fuel needed in each unit for escape tangent. The escape time, combining orbital speeds of Tara and Junior, are completed, and we have six hours and fifty-five minutes before blast-off!" He turned and rumpled Alfie's hair. "Alfie and I have completed the communications unit and have tested it. Junior is ready to get his big kick in the pants!"

Connel stood up. He was speechless. It was almost too much to believe.

"*Get below*," he roared, "and go to sleep! If I catch one of you awake in five minutes, I'll log you fifty demerits!"

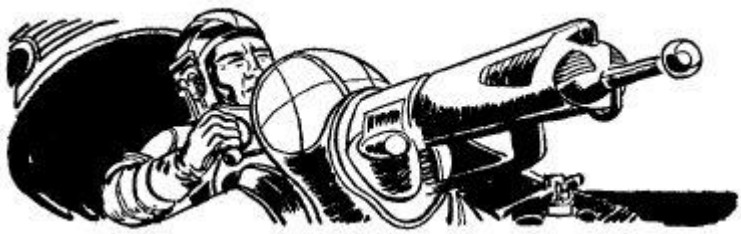
The tired workers grinned back at their commander.

"I'll get everything set," said Connel, "and wake you up an hour before we have to get things ready. Now *hit the sack!*"

Their grins spreading even wider on their haggard faces, they turned away. Connel stepped to the desk on the control deck and wrote across the face of the logbook page.

"… October 2nd, 2353. Space Cadets Corbett, Manning, Astro, and Higgins and ex-enlisted spaceman Nicholas Shinny completed this day all preparation for operation Junior's Pitch. By authority vested in me as Senior Officer, Solar Guard, I hereby recommend official commendation of "*well done*" to the above-mentioned spacemen, and that all honors pursuant to that commendation be officially bestowed on them. Signed, Connel, Major, SO—SG…"

He closed the book and wiped the corners of his eyes with the back of his hand.



CHAPTER 16

"Well, fellows," said Tom, stifling a yawn, "it looks like we did it. But I could use some more sleep. That five hours was just enough to get started on!"

"Yeah," agreed Roger sourly, "but where does this Venusian lummox get off grabbing all the credit." He looked at Astro. "If I hadn't built the fuses for your little firecrackers—"

"*Firecrackers!*" yelped Astro. "Why, you skinny space fake! If I hadn't built those nuclear reactors, *you* wouldn't have anything to set off!"

Connel appeared in the small messroom of the *Polaris*, his hands full of papers and drawings. "When you've finished congratulating each other, I'd like to say a few things!" he snapped.

"Congratulate *him?*" exclaimed Roger. "Skipper, his head's so thick, the noise on the power deck can't even reach his eardrums!"

"Just one more word, Manning," growled Astro, "and I'll take a deep breath and blow you away!"

"*One more word out of either of you*," roared Connel, "and I'll throw you both in the brig with Mason and Loring!"

Suddenly he glared at the five spacemen. "Who's on prisoner watch today?" he asked.

The four cadets and Mr. Shinny looked at each other then at Roger.

"Uhhh—I am, sir," Roger confessed.

"I had a sneaking suspicion you would be!" said Connel. "Cadet Manning, one of the first things an officer of the Solar Guard learns is to care for the needs of his men and prisoners before himself. Did you know that, Cadet Manning?"

"Uhhh—yes, sir. I was just going to—" mumbled Roger.

"Then go below and see that Mason and Loring get their rations!"

"Yes, sir," said Roger. He got up and collected a tray of food.

"All of you report to the control deck in five minutes for briefing," said Connel and followed Roger out of the door.

"How do you like that?" said Astro. "We break our backs for the guy and we're no sooner finished then he starts the old routine again!"

"That has nothing to do with it, Astro," said Tom. "Put yourself in his position. We've only got one or two things to think about. He's responsible for it all."

"Just like he was when I sailed with him twenty-five years ago," said Shinny. He swallowed the remains of his tea and reached for a plug of

tobacco. "He's all spaceman from the top of his head to the bottom of his space boots."

"I'm rather inclined to agree with you, Tom," said Alfie mildly. "Leadership carries with it the greatest of all burdens—responsibility for other peoples' lives. You, Corbett, as a control-deck cadet, would do well to mark Major Connel's pattern of behavior."

"Listen," growled Astro, "if Tom ever turned out to be a rocket buster like Connel—I'd—I'd—"

"Don't worry, Astro," Tom said, laughing. "I don't think there'll be another Major Connel in a million light years!"

Shinny laughed silently, his small frame shaking slightly. "Say it again, Tommy. Not in the whole universe will there ever be another like old 'Blast-off' Connel!"

On the deck below the messroom, Roger, balancing a tray carefully on one hand, opened the electronic lock of the brig and then stepped back quickly, leveling a paralo-ray gun.

"All right, Mason, Loring," he yelled, "come and get it!" The door slid open, and Loring stuck his head out. "Any funny business," Roger warned, "and I'll stiffen you so fast, you won't know what hit you!"

"It's about time you showed up!" growled Loring. "Whaddaya trying to do, starve us to death?"

"That's not a bad idea!" said Roger. Loring took the tray. Roger motioned him back inside the brig and slammed the door shut. He locked it and leaned against the grille.

"Better eat it while you can," he said. "They don't serve it so fancy on a prison asteroid."

"You'll never get us on a prison asteroid," whined Mason.

"Don't kid yourself," said Roger. "As soon as we get the reactor units set, we're going to send this hunk of copper back to Earth and then take you back. They'll bury you!"

"Who's going to do all that?" snapped Loring. "A bunch of punk kids and a loudmouthed Solar Guard officer?"

"Yeah," retorted Roger.

"*Cadet Manning!*" Connel's voice roared over the intercom. "You were ordered to report to the control deck in five minutes! You are already one minute late! Report to the control deck on the double and *I mean double!*"

Loring and Mason laughed. "Old 'Blast-off' Connel's really got your number, eh, kid?"

"Ah, rocket off, you pinheaded piece of space junk! It didn't take him long to dampen *your* tubes!"

Connel roared again. "*Blast your hide, Manning, report!*"

"Better raise ship, Manning," said Loring, "you might get another nasty demerit!"

Roger turned away and raced to the control deck. He entered breathlessly

and stood beside his unit-mates while Connel eyed him coldly.

"Thank you, Cadet Manning," said Connel. "We appreciate your being here!"

"Yes, sir," mumbled Roger.

"All right," barked Connel, "you know your assignments. We'll take the jet boats as before and go out in pairs. Tom and myself, Astro and Roger, and Shinny and Alfie. We'll set up the reaction charges on Junior at the points marked on the chart screen here." He indicated the chart on the projection. "Copy them down on your own charts. Each team will take three of the reaction units. My team will set up at points one, two, and three. Astro and Roger at four, five, and six. Alfie and Shinny at seven, eight, and nine. After you've set up the charges, attach the triggers for the fuses and return to the ship. Watch your timing! If we fail, it'll be more than a year before Junior will be in the same orbital position again. How much time do we have left, Corbett?"

Tom glanced at the clock. "Exactly two hours, sir," he said.

"Not much," said Connel, "but enough. It shouldn't take more than an hour and a half to set up the units and get back to the ship to blast off. All clear? Any questions?"

There were no questions.

"All right," said the officer, "put on your space gear and move out!"

Handling the lead-encased charges carefully, the six spacemen loaded the jet boats and, one by one, blasted off from the *Polaris* to positions marked on the map.

Working rapidly, each of the teams of two moved from one position to another on the surface of the desolate satellite. Connel, referring constantly to his watch, counted the minutes as one by one the teams reported the installation of a reactor unit.

"This is Shinny. Just finished installing reaction charge one at point seven…"

"This is Manning. Just finished installing reaction charge at point four…"

One after the other, the teams reported. Connel, with Tom piloting the jet boat, finished setting up their units at points one, two, and three and headed back to the *Polaris*.

"How much time, sir?" asked Tom as he slowed the small craft for a landing.

"Less than a half hour, Corbett," said Connel nervously. "I'd better check on Shinny and Alfie." He called into the audiophone. "Major Connel to Shinny and Higgins, come in Shinny—Higgins!"

"Shinny here!" came the reply. "We're just finishing up the last unit. Should be back in five minutes."

"Make it snappy!" said Connel. "Less than a half hour left!"

"We'll make it," snorted Shinny.

"Coming in for a touchdown," said Tom. "Better strap in, sir!"

Connel nodded. He laced several straps across his lap and chest, gripping the sides of the seat. Tom sent the jet boat in a swooping dive, cut the acceleration, and brought the small ship smoothly inside the huge air lock in the side of the *Polaris*.

"I'd better get right up on the control deck and start warming up the circuits, sir," said Tom.

"Good idea, Tom," said Connel. "I'll try and pick up Manning and Astro."

Tom left the officer huddling over the communicator in the jet boat.

"Major Connel to Manning and Astro, come in!" called Connel. He waited for a moment and then repeated. "Manning—Astro, come in! By the rings of Saturn, come in!" There was the loud roar of an approaching jet boat. Shinny guided the ship into the *Polaris* with a quick violent blast of the braking rockets. The noise was deafening.

"Belay that noise, you blasted space-brained idiot!" roared Connel. "Cut that acceleration!"

Shinny grinned and cut the rockets. The jet-boat catapult deck was quiet, and Connel turned back to the communicator.

"Come in, Manning—Astro! This is Major Connel. Come in!"

On the opposite side of the airless satellite, Roger and Astro were busy digging a hole in the hard surface. Near by lay the last of the explosive units to be installed. Connel's voice thundered through their headset phones.

"Boy, is he blasting his jets!" commented Roger.

"Yeah," grunted Astro. "He should have to dig this blasted hole!"

"Well, this is where it's got to go. If the ground is hard, then it's our tough luck," said Roger. "If we stick it anywhere else, it might mess up the whole operation."

Astro nodded and continued to dig. He held a small spade and jabbed at the ground. "How much—time—have we got left?" he gasped.

"Twenty minutes," replied Roger. "You'd better hurry."

"Finished now," said Astro. "Get the reactor unit over here and set the fuse."

Roger picked up the heavy lead box and placed it gently inside the hole.

"Remember," Astro cautioned, "set the fuse for two hours."

"No, you're wrong," replied Roger. "I've set the fuses each time, subtracting the amount of time since we left the *Polaris*. I set this one for twenty minutes."

"You're wrong, Roger," said Astro. "It's maximum time is two hours."

"Listen, you Venusian clunk," exploded Roger, "*I* built this thing, so I know what I'm doing!"

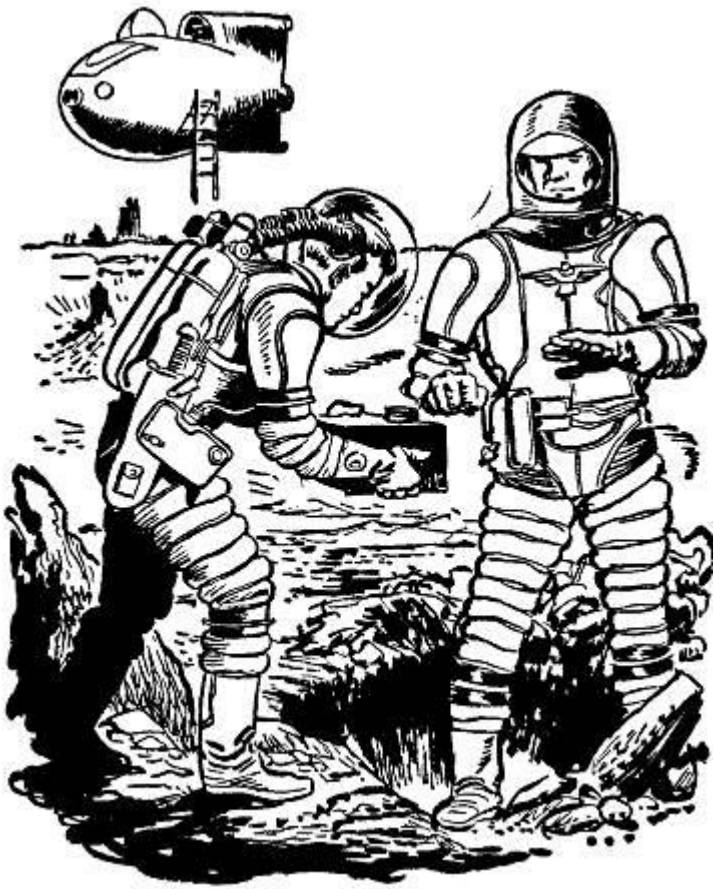
"But, Roger—" protested Astro.

"Twenty minutes!" said Roger, and twisted the set-screw in the fuse. "O.K., it's all set. Let's get out of here!"

The two cadets raced back to the jet boat and blasted off immediately. Once in space, Astro turned to Roger.

"Better check in with Major Connel before he tears himself to pieces!"

"Yeah," agreed Roger. "I guess you're right." He flipped on the audio communicator. "Attention! Attention! Manning to Major Connel. Am making flight back to *Polaris*. All installations complete."



"Remember," Astro cautioned, "set the fuse for two hours."

"What took you so long, Manning?" barked Connel in reply. "And why didn't you answer me?"

"Couldn't, sir," said Roger. "We had a tough time digging a hole for the last unit."

"Come back to the *Polaris* immediately," said Connel. "We're blasting off in fifteen minutes."

"Very well, sir," said Roger.

Presently the jet boat circled the *Polaris* and made a landing run for the open port. Roger braked the small craft and brought it to rest alongside the others.

"That's it, spaceboy," he said to Astro. "All out for the *Polaris* express back home!"

"Just be sure you give me a good course, Manning," grunted Astro, heaving his huge frame out of the small cabin of the jet boat, "and I'll give you all the thrust you want!"

Astro secured the jet boats while Roger closed the air-lock hatch, shutting out the last view of the rugged little planetoid. Roger threw the landscape a mocking kiss.

"So long, Junior! See you back home!" The two cadets climbed the ladder leading to the control deck.

Seated in front of the control panel, Tom watched the sweeping hand of the solar clock. Connel paced nervously up and down behind him. Shinny and Alfie stood to one side also watching the great clock.

"How much time, Corbett?" asked Connel for the dozenth time.

"Junior gets his kick in the pants in ten minutes, sir," replied Tom.

"Fine," said Connel. "That gives me just enough time to notify Space Academy to get ready to receive Junior's signal. You know what to do?"

"I don't have to do anything, sir," answered Tom, nodding to the solar clock over his head. "In nine minutes and twenty seconds, the reactor units go off automatically at one-second intervals."

Roger and Astro entered the control deck and came to attention. Connel returned their salute and put them at ease.

"All right, our work here is done," said Connel. "No point in hanging around any longer. Tom, you can blast off immediately."

"Yes, sir," replied Tom.

Connel climbed the ladder to the radar bridge to contact Space Academy. Astro, Roger, Shinny, and Alfie went to their posts and began quick preparations for the blast-off. One by one, they checked in to Tom on the control deck.

"Power deck, ready to blast off!" reported Astro.

"Radar bridge, all set. Clear trajectory forward and up," said Roger.

"Energize the cooling pumps!" bawled Tom into the intercom.

The great pumps began to wheeze under the strain of Astro's sudden switch to full load without the usual slow build-up. Tom watched the pressure needle rise slowly in front of him and finally reached out and gripped the master switch.

"Stand by to raise ship!" he yelled. "Blast off minus five—four—three—two—one—*zeroooooo!*"

He threw the switch. The great ship shivered, vibrated, and then suddenly shot away from the precious satellite. Tom quickly adjusted for free fall by switching on the synthetic-gravity gyro generators and then announced over the intercom,

"Major Connel! Cadet Corbett reporting. Ship space-borne at exactly thirty-one, sir!"

"Very well, Corbett," replied Connel. "Space Academy sends the crew a '*well done!*' Everything's set back home to take over the beam as soon as Junior starts on his way back. How much time until zero blast-off on the satellite?"

Tom glanced at the clock. "Less than two minutes, sir!"

"All right," said Connel over the intercom, "everybody to the control deck if you want to see Junior do his stuff!"

In a moment the six spacemen were gathered around the magnascope waiting for the final act of their great effort. Breathlessly, their eyes flicking back and forth from the solar clock to the magnascope, they waited for the red hand to sweep around.

"Here it comes," said Tom excitedly. "One second—two seconds—three—four—*five!*"

On the surface of the planetoid, giant mushrooming clouds appeared climbing into the airless void. One by one the reactor units exploded. Connel counted them as they blew up.

"One, two, three, four, five, six, seven, eight—" he paused. Junior began moving away from them. "Nine!" shouted Connel. "What happened to nine?"

"Roger," shouted Astro, "you made a mistake on the timer!"

"But I couldn't. I—I—"

Connel spun around, his eyes blazing, breathing hard. "What time did you set the last one for, Roger?" he demanded.

"Why, twenty minutes to blast-off time, sir," answered the blond-headed cadet.

"Then it won't go off for another forty minutes," said Connel.

"But, sir—" began Roger, and then fell silent. The room was quiet. Everyone looked at Roger and then at Connel. "Honestly, sir, I didn't mean to make a mistake. I—" pleaded Roger.

Connel turned around. His face suddenly looked very tired. "That's all right, Roger," he said quietly. "We've all been working pretty hard. One little mistake is bound to show up in an operation like this." He paused. "It's my fault. I should have checked those fuses myself."

"Does it make so much difference, sir?" asked Astro.

"A lot of difference, Astro," said Connel. He sat down heavily.

"But how, sir?" asked Tom.

"It's very simple, Tom," answered Connel. His voice was strangely quiet. "Junior spins on its axis in two hours, just as Earth spins in twenty-four hours. I thought we had the explosions timed so at the proper moment we'd push

Junior out of his orbit around Tara, and the greater orbit around Alpha Centauri, by utilizing both speeds, plus the initial thrust. But by being one blast short, forty minutes late, the explosion will take place when Junior is forty minutes out of position"—he paused and calculated rapidly in his mind —"that's about forty-eight thousand miles out of position. When it goes off, instead of sending Junior out into space, it'll blast it right into its own sun!"

"Isn't there something we can do, sir?" asked Tom.

"Nothing, Corbett," answered Connel wearily. "Instead of supplying the Solar Alliance with copper, in another week Junior will be hardly more than a molten piece of space junk." He looked at the teleceiver screen. All ready, Junior was falling away.

"Stand by for full acceleration, hyperdrive," said the big officer in a hoarse whisper. "We're heading home!"

CHAPTER 17

The subdued whine of the hyperdrive filled the power deck and made Roger wince as he stepped through the hatch and waved at Astro. He climbed down the ladder and stopped beside the big Venusian who stood stripped to the waist, watching the pressure gauges on the power-deck control board.

"Hiya, Roger," said Astro with a big grin.

"Hello, Astro," replied Roger and sat down on a stool near by.

"Excuse me a minute, hot-shot," said Astro. "Gotta check the baffling around reaction tube three." The big cadet hurriedly donned a lead-lined protective suit and entered the reaction chamber. After a moment he reappeared and took off the suit. He poured a glass of water, handed it to Roger, and poured another for himself.

"Gets pretty hot down here," he said. "I don't like to use the air conditioner when I'm on hyperdrive. Sucks my power output and reduces pressure on the oxygen pumps."

Roger nodded absently at the needlessly detailed explanation. Astro looked at him sharply. "Say, what's eating you?"

"Honestly, Astro," said Roger, "I've never felt more miserable in my life."

"Don't let it get you down, Roger," said Astro. "The major said it was a mistake anyone could make."

"Yeah," flared Roger, "but have you seen the way he just—*talks*?"

"Talks?" asked Astro blankly.

"Yeah, talks," said Roger. "No yelling, or blasting off, or handing out demerits like they were candy. Nothing! Why he hasn't even chewed Alfie out since we left Junior. He just sits in his quarters."

Astro understood now and nodded his head in agreement. "Yeah, you're right. I'd rather have him fusing his tubes than the way he is now."

"Tom must feel pretty rotten, too," said Roger. "I haven't seen much of him either."

"Or Alfie," put in Astro. "Neither of them have done anything but work. I don't think either of them has slept since we left Tara."

"It's all my fault!" said Roger. "I'm nothing but a loudmouthed bag of space gas-with an asteroid for a head!" He got up and lurched toward the ladder.

"Hey, where you going?" yelled Astro.

"Almost forgot," yelled Roger from the top of the ladder. "I've got to feed our prisoners a meal. And the way I feel, I'd like to shove it down their throats!"

Roger went directly to the galley off the control deck and prepared a hasty meal for Loring and Mason. He piled it on a tray and went below to the brig.

"All right, Loring," he growled, "come and get it!"

"Well, well, well," sneered Loring. "Where's the big Manning spirit? You boys are kinda down since you blew that little operation, huh?"

"Listen, you space crawler," said Manning coldly, "one more word out of you and I'll bring you out in the passageway and pound that head of yours into space junk!"

"I wish you'd try that, you little squirt!" snarled Loring. "I'd break you in two!"

"O.K., pal," said Roger, "I'm going to give you that chance!" He opened the door to the cell and Loring stepped out. Holding the paralo-ray gun on him, Roger relocked the door. Left inside, Mason stuck his face close to the grille.

"Give it to him, Loring," he hissed. "Take him apart!"

Roger threw the paralo-ray gun in the corner of the passageway and faced the heavier spaceman. He held his arms loosely at his side, and he balanced on the balls of his feet. A slight smile played at the corners of his mouth.

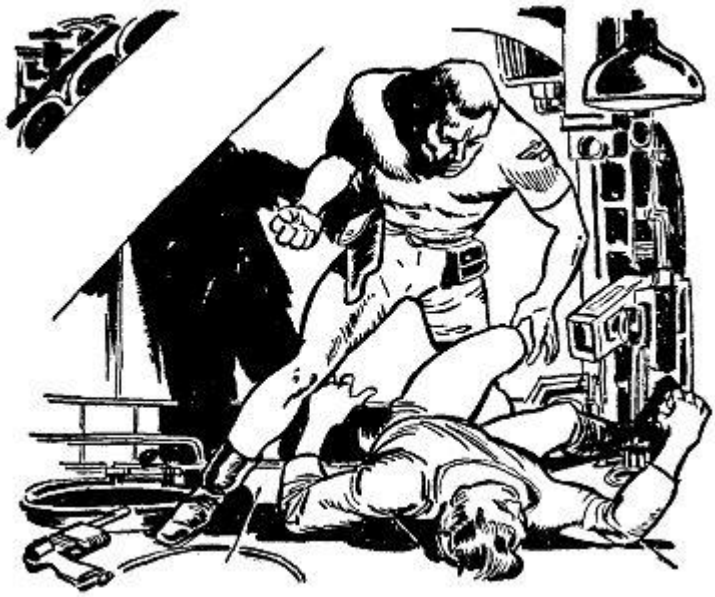
"Start breaking, Loring," he said quietly.

"Why, you—" snarled Loring and rushed in. He swung wildly for Roger's head, but the cadet slipped inside the punch and drove a hard right to Loring's mid-section. The prisoner doubled over, staggered back, and slowly straightened up. Roger's lips were drawn tightly in a grimace of cold anger. His eyes were shining hard and bright. He stepped in quickly and chopped two straight lefts to Loring's jaw, then doubled the spaceman up again with a hard right to the heart. Loring gasped and tried to clinch. But Roger threw a straight jolting right to his jaw. The prisoner slumped to the floor, out cold. The fight was finished.

Roger went over, picked up the paralo-ray gun, and opened the cell door again.

"All right, Mason," he said coldly, "drag him inside. And if you want to try me for size, just say so."

Mason didn't answer. He merely hurried out, and grabbing Loring by the feet, dragged him inside. Roger slammed the door and locked it.



Rubbing his knuckles and feeling better than he had felt for days, he started back to the radar bridge. As he neared Major Connel's quarters, he heard Connel's voice. He stopped and listened outside the door.

"It's a beautiful job of calculation, Tom," Connel was saying. "I don't see how you and Higgins could have done it in so short a time. And without an electronic computer to aid you. Beautiful job—really excellent—but I'm afraid it's too risky."

"I've already talked to Astro and Mr. Shinny, sir," said Tom, "and they've volunteered. I haven't spoken to Roger yet, but I'm sure he'd be willing to try."

Roger stepped through the door.

"Whatever it is," said Roger, "I'm ready."

"Eavesdropping on your commanding officer," said Connel, eying the blond-headed cadet speculatively, "is a very serious offense."

"I just happened to hear my name mentioned, sir," replied Roger with a smile.

Connel turned back to Tom. "Go over that again, Tom."

"Well, sir," said Tom, "Junior's falling into the sun at a speed of twenty-two miles a second right now. But we could still land a jet boat on Junior, set up more nuclear explosions to blast him out of the sun's grip, and send him on his way to our solar system. We wouldn't get as much speed as before, but we'd still save the copper."

By this time, Astro and Shinny had joined the group and were standing outside the door in the passageway, listening silently.

Connel tugged at his chin. "Let's see," he said, "if we could get back to Tara

in three days…" He looked up at Astro. "Do you think you could get us back in three days, Astro?"

"Major Connel, for another crack at Junior," roared the big Venusian, "I'd get you back in a day and a half!"

"All right," said Connel. "That's one problem. But there are others."

"What, sir?" asked Tom.

"We have to prepare reactant fuses and we have to build new reactor units. If we could do that—"

"If Astro can get us back," said Shinny, "and Roger and this smart young feller here, Alfie, can make up some fuses, I'll build them there units. After all, Astro showed me how once. I guess I can follow his orders!"

"Good!" said Connel. "Now there is the element of time. How much time would we need on Junior?" He looked at Tom.

"Let me answer this way, sir," said Tom. "We'd only have two hours to plant the reaction charges and trigger them, but that should be enough."

"Why so close, Tom?" asked Roger.

"It has to be," answered Tom. "We know what the pull of the sun is, and the power of the jet boat. When the sun's pull becomes greater than the escape speed of the jet boat, the boat would never clear. It would keep falling into the sun. I've based this figure on reaching Junior at the last possible moment."

"It'd take at least five men to set up the five explosions we need," mused Connel. "That means one of us will have to stay on the *Polaris*."

There was an immediate and loud chorus of "Not me!" from everyone.

"All right," said Connel, "we'll draw numbers. One, two, three, four, five, and six. The man who draws number six will stay with the *Polaris*. All right?"

"Yes, sir," said Tom, glancing around. "We agree to that."

Connel went to his desk and wrote quickly on six slips of paper. He folded each one, dumped them in his cap, and offered it to Astro.

"All right, Astro," said Connel, "draw!"

Astro licked his lips and stuck in his big paw. The Venusian fingered several, then pulled out a slip of paper. He opened it and read aloud. "Number two! I go!" He turned and grinned at the others.

Connel offered his cap to Alfie. Alfie dipped in two fingers and pulled out a slip. "Number four! I go!" he squealed.

Roger and Shinny drew numbers one and three. Tom looked at the major. "Go ahead, Corbett," said Connel.

"After you, sir," said Tom.

"I said draw one!" roared Connel.

"Yes, sir," said Tom. He reached in and quickly pulled out one of the two remaining slips.

"Number six," he said quietly. "I stay."

Connel, not bothering to open the last one, slapped the hat on his head and turned away.

"But, sir," said Tom, "I—ah—"

Connel cut him off with a wave of his hands. "No *buts*!" He turned to the others. "Manning, Higgins! Get me a course back to Junior and make it clean and straight. Astro, Shinny, stand by on the power deck for course change. Tom, get on the control deck. We're going back to snatch a hot copper filling right out of a sun's teeth!"

Once again the energy of the six spacemen was burned in twenty-four hour stretches of improvisation and detailed calculations. Roger and Alfie redesigned the fuse to ensure perfect co-ordination of the explosions. Astro and Shinny surpassed their previous efforts by putting enough power in the five small reaction units to more than do the job required. Tom, standing long watches on the control deck, devoted his spare time to the torturous equations that would mean failure or success to the whole project. And Major Connel, alert and alive once more, drove his crew toward greater goals than it had achieved before.

Nearly three days later, the *Polaris* appeared over the twin oceans of Tara and glided into an orbit just beyond the pull of the planet's gravity. Aboard the spaceship, last-minute preparations were made by the red-eyed spacemen.

In constant contact with Space Academy, using the resources of the Academy's scientific staff to check the more difficult calculations, the six men on the *Polaris* worked on.

Connel appeared on the radar bridge and flipped on the long-range scanner.

"Have to find out where Junior is," he said to Roger and Alfie.

"That doesn't work, sir," said Roger.

"What do you mean it doesn't work?" exploded Connel.

"Junior's falling into the sun, sir. The radiations are blocking it out from our present position."

"Couldn't we move to another position?" asked the officer.

"Yes, sir," said Roger, "we could. But to do that would take extra time, and we haven't got it."

"Then how are you going to find Junior?" asked Connel.

"Alfie's busy with a special scanner, sir, one that's especially sensitive to copper. Since the sun is composed mostly of gas, with this filter only Junior will show up on the screen."

"By the rings of Saturn," exclaimed Connel, "you mean to tell me that Alfie Higgins is building a new radar scanner, just like that?"

"Why, yes, sir," answered Roger innocently. "Is there something wrong with that?"

"No—no—" said Connel, backing off the bridge. "Just—just go right on. You're doing fine! Yessirree, fine!" He literally ran from the bridge.

"Most humorous of you, Manning," said Alfie, smiling.

"I'll tell you something funnier than that," said Roger. "I feel the same way he does. Is there anything you *can't* do, Alfie?"

Alfie thought a moment. "Yes, there is," he said at last.

"What?" demanded Roger.

"I can't—shall I say?—make as much progress as you do with—er—space dolls."

Roger's jaw dropped. "Space dolls! You mean—girls?"

Alfie nodded his head.

"Listen," said Roger, "when we get Junior on his way home, and we get back to the Academy, I promise you I'll show you how to really blast your jets with the space lovelies in Atom City!"

Alfie put out his hand seriously. "And if you do that for me, Roger, I'll show you how to use the new electronic brain they recently acquired at the Academy. Only one other person can operate it. But you definitely have the potential."

Roger stared at him stupidly. "Huh? Yeah. Oh, sure!"

Gradually the mass of data was brought together and co-ordinated, and finally, as Tom stood beside him, Major Connel checked over his calculations.

"I can't see a thing wrong with it, Tom," Connel said at last. "I guess that's it. Figuring we land on Junior at exactly seventeen hundred hours, we'd reach the point of no return exactly two hours later."

"Shall I alert stations to blast off for Junior?" asked Tom.

"Yes," said Connel, "bring the *Polaris* to dead ship in space about three hundred miles above Junior. That's when we'll blast off in jet boats."

"Yes, sir," said Tom. His eyes bright, he turned to the intercom. "All right, you space babies," he announced, "this is it. Stand by to blast Junior. Here we come!"

CHAPTER 18

Dawn broke over the tangled jungles of Tara, followed by the bright sun of Alpha Centauri rising out of the eastern sea and slowly climbing higher and higher. In the dense unexplored wilderness, living things, terrible things, opened their eyes and resumed their never-ending quest for food. Once again Alpha Centauri had summoned one hemisphere of its satellite planet to life.

Meanwhile, high in the heavens above Tara, six Earthmen blasted into the flaming brilliance of the sun star. Using delicate instruments instead of claws, and their intelligence instead of blind hunger, they prepared to do battle with the sun star and force it to release the precious copper satellite from its deadly, consuming grasp.

The crew of the *Polaris* assembled on the control deck of the great spaceship, and facing their commanding officer, waited patiently for the word that would send them hurtling out to their target.

"The jet boats are all ready, sir," reported Tom. "We're dead ship in orbit around Junior at an altitude of about three hundred miles."

"Does that mean we're falling into the sun too?" gasped Shinny.

"It sure does, Mr. Shinny," said Alfie, "at more than twenty miles per second."

"The jet boats have enough power to get back from Junior to the *Polaris*, Mr. Shinny," reassured Tom. "And then the *Polaris* can blast off from here. The jet boats wouldn't go much higher off Junior this close to the sun."

"But if we go beyond the two-hour limit, the *Polaris* can't blast off either," commented Roger dryly.

"All right. Is everything set?" asked Connel. "Astro, is the reactant loaded?"

"No, sir," said Astro, "but it's all ready to go in."

"Good!" said Connel. "Now we all know how important—and how dangerous—this operation is. I don't have to tell you again. You stay here on the control deck, Tom, and keep in touch with us on Junior at all times. You know what to do?"

"Yes, sir," replied Tom. "I'm to stand by and give you a minute-by-minute warning check until final blast-off time."

"Right," said Connel. "And remember, we're counting on you to tell us when to blast off. We'll be too busy down there to pay any attention."

"I understand, sir," replied Tom. His face was passive. He was well aware of the responsibility.

"Very well," said Connel finally, "the rest of you board your jet boats! This

is going to be the hottest ride we'll ever take, and I don't want it to get any hotter!"

Silently, their faces grim masks, the five spacemen filed out of the control room, leaving Tom alone. Presently he heard the cough of the rockets in the jet boats as one by one the small space craft blasted out of the *Polaris*. Suddenly Tom began to shake as he realized the importance of his task—the responsibility of counting time for five men, time that could cost them their lives. If he made a single mistake, miscounted by a minute, the expedition to Junior would end not only in failure, but in tragedy.

As quickly as the thought came, Tom pushed it aside and turned to the control board. No time now for fear. Now, more than any other time in his life, he had to keep himself alert and ready for every emergency. As a child he had often dreamed of the day when, as a spaceman, he would be faced with an emergency only he could handle. And in the dreams he had come through with flying colors. But now that it was a reality, Tom felt nothing but cold sweat breaking out on his forehead.

He turned his whole attention to the great solar clock overhead. Time had already begun slipping away. Ten minutes of the two hours had swept past. They must be on Junior by now, he thought, and flipped on the teleceiver. He focused on the satellite's surface. There in front of him were the three jet boats. Major Connel, Roger, Astro, Alfie, and Mr. Shinny were so close that Tom felt as though he could touch them. They were unloading the first reactor unit, with Astro and Shinny digging the hole. Tom glanced at the clock, turned to the microphone, and announced clearly:

"Attention! Attention! Corbett to Connel. One hour and forty-eight minutes until blast-off time—one hour and forty-eight minutes to blast-off."

He flipped the switch and watched the screen with rising excitement. The crew on the satellite had completed the installation of the first reactor unit. He saw them blasting off in their jet boats for the second spot. He adjusted the teleceiver and tried to follow them, but they disappeared. He glanced at the clock.

"Attention! Attention! Corbett to Connel. One hour and forty-seven minutes to blast-off—one hour and forty-seven minutes to blast-off."

On the satellite, in the deep shadow of a protecting cliff, each of the five Earthmen paused involuntarily when they heard Tom's warning.

"Forget about the time!" snapped Connel. "By the blessed rings of Saturn, we'll finish this job if it's the last thing we do!"

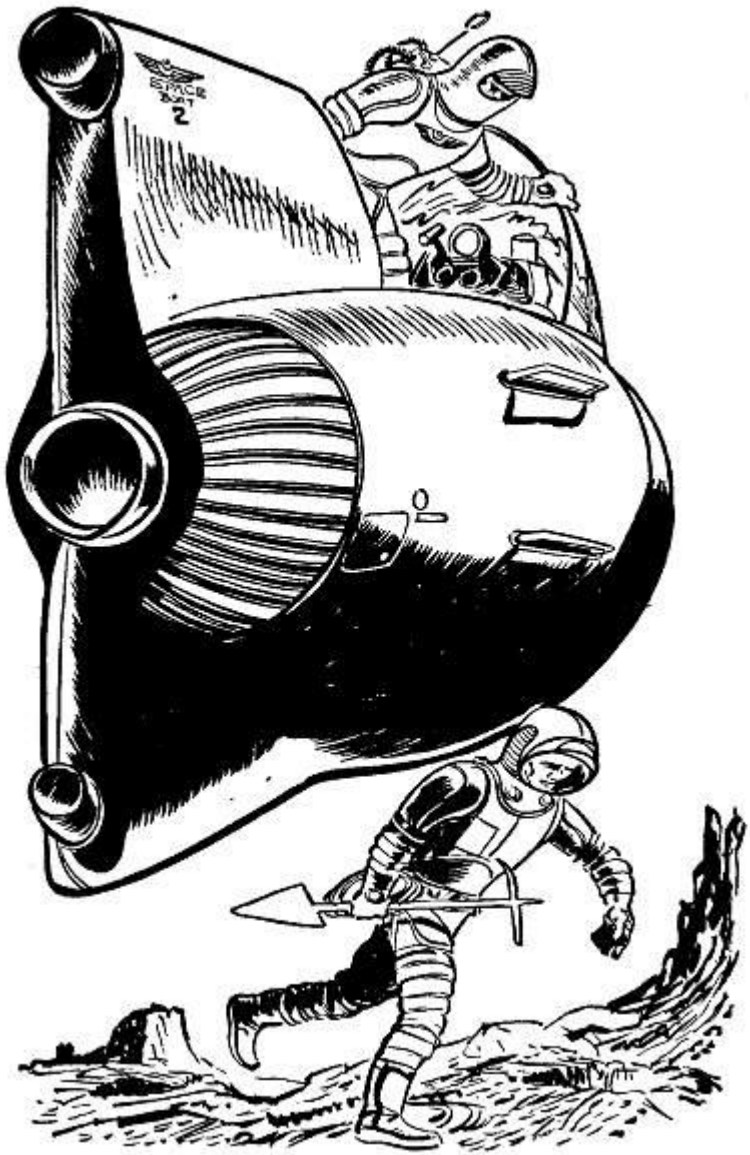
Connel went to each of the working figures and adjusted the valve, regulating the air-cooling humidity control on their space suits. "Getting pretty hot, eh, boys?" he joked, as he stopped one and then the other to make the delicate adjustment counteracting the heat that was increasing each second they remained on the satellite.

"How hot do you think it is, sir?" asked Roger.

"Never mind the heat," said Connel. "These suits were designed to

withstand the temperature of the light side of Mercury! It gets boiling there, so I guess we can stand it here for a while."

One by one, Alfie, Shinny, Roger, and Astro completed their assigned roles, digging the holes, placing the reactors inside, setting the fuse, covering it up, then quickly gathering the equipment, piling back into the three jet boats, and heading for the next point. Landing, they would tumble out of the small space craft almost before the rocket had stopped firing and begin their frantic digging in the hard surface.



Landing, they would tumble out of the jet boat and begin their frantic digging

Over and over, they heard Tom's crisp clear count of time. Five minutes passed, then ten, and before they knew it, a full half-hour of the precious time had vanished. They completed the installation of the second unit and climbed back into the jet boats. The first two units had been buried at points protected

from the sun by cliffs, and they had been sheltered from the burning rays.

But, approaching the position for the third reactor unit, Connel searched in vain for some shade. He wasted five precious minutes, scouting an area of several miles, but he could find nothing to protect them on the flat plain.

"Better put in the ultraviolet glass shields in our helmets, boys," he called into the jet-boat communicator. "It's going to be mighty hot, and dangerous."

"Aye, aye, sir," came the replies from the other two jet boats soaring close by.

Roger began refitting their space helmets with the dark glass that would shield them from the strong rays of the enlarging sun.

"Ever been outside in the direct path of the sun with no protection, Roger?" asked Astro.

"No," replied Roger. "Have you?"

"Once," said Astro softly. "On the second moon of Mars, Phobos. I was bucking rockets on the old chemical burners. I was on a freighter called the *Happy Spaceman*. A tube blew on us. Luckily we were close enough to Phobos to make a touchdown, or the leak would have reached the main fuel tanks and blown us clean out to another galaxy."

"What happened?" asked Roger.

"I had to go outside," said Astro. "I was junior rocketman in the crew, so naturally I had to do all the dirty work."

Tom's warning call from the *Polaris* control deck, tuned to the open communicators of all the jet boats, broke through the loud-speaker.

"Attention! Attention! Corbett to Connel. One hour and twenty minutes to blast-off time. One hour and twenty minutes to blast-off time."

The two cadets looked at each other as they heard Tom's voice, but neither spoke. Finally Roger asked, "What happened on Phobos?"

"No one bothered to tell me," continued Astro, "that I had to protect myself from the ultraviolet rays of the sun, since Phobos didn't have an atmosphere. It was one of my first hops into space and I didn't know too much. I went outside and began working on the tube. I did the job all right, but for three weeks after, my face was swollen and I couldn't open my eyes. I almost went blind."

Roger grunted and continued to line the clear plastic fish-bowl helmets with the darker protective shields.

Connel's voice rang through the cabin over the communicator: "I guess we'd better go down and get it over with. I don't see anything that will give us any protection down there. Be sure your humidity control is turned up all the way. As soon as you step outside the jet boat, you're going to be hit by a temperature of four hundred degrees!"

"Aye, aye, sir," came Shinny's reply over the intercom. Roger flipped the communicator on and acknowledged the order.

Astro and Shinny followed Connel's jet boat in a long sweeping dive to the surface of the satellite. Stepping out of the air-cooled jet boat onto the torrid

unprotected surface of the flat plain was like stepping into a furnace. Even with space suits as protection, the five Earthmen were forced to work in relays in the digging of the hole for the reactor unit.

"Attention! Attention! Corbett to Connel. One hour exactly to blast-off time! One hour—sixty minutes—to blast-off time."

Tom flicked the teleceiver microphone off, and on the teleceiver screen, watched his spacemates work under the broiling sun. They were ahead of time. One hour to complete two more units. Tom allowed himself a sigh of hope and relief. They could still snatch the copper satellite from the powerful pull of the sun.

Suddenly Tom heard a sound behind him and whirled around. His eyes bulged in horror.

"Loring!" he gasped.

"Take your hand off that microphone, Corbett," snarled Loring, "or I'll freeze you!"

"How—how did you get out?" Tom stammered.

"Your buddy, Manning," sneered Loring with a short laugh, "decided he wanted to paste my ears back. So I let him. He was so anxious to make me lose a few teeth that he didn't notice the spoon I kept!"

"Spoon?" asked Tom incredulously.

"Yeah," said Mason, stepping through the door, a paralo-ray gun leveled at Tom. "A few teeth for a spoon. A good trade. We waited for your pals to leave the ship, and then I short-circuited the electronic lock on the brig."

Tom stared at the two men unbelievingly.

"All right, Corbett, get over there to that control board," growled Loring, waving the paralo-ray gun at Tom. "We're going back to Tara."

"Tara?" exclaimed Tom. "But Major Connel and the others—they're—they're down on the satellite. If I don't pick them up, they'll fall into the sun!"

"Well, ain't that too bad," sneered Loring. "Listen to that, Mason. If we don't hang around and pick them up, they'll fall into the sun!"

Mason laughed harshly and advanced toward Tom. "I only got one regret, Corbett. That I can't stay around to see Connel and the Manning punk fry! Now get this wagon outta here, and get it out quick!"

CHAPTER 19

"Major!" shouted Astro. "Look! The *Polaris*! The *Polaris* is blasting off!"

The five Earthmen stared up at the silvery spaceship that was rapidly disappearing into the clear blue void of space. Without hesitation, Connel raced for the nearest jet boat and roared into the communicator.

"Corbett! Corbett! Come in, Tom!"

He waited, the silence of the loud-speaker more menacing than anything the spaceman had ever encountered before. Again and again, the Solar Guard officer tried to raise the cadet on the *Polaris*. Finally he turned back to the four crewmen who hovered around the jet boat, hoping against hope.

"Whatever it is," he said, "I'm sure Tom is doing the right thing. We came down here to do a job and we're going to do it! Get moving! We still have to set up the rest of these reactor units."

Without a word, the five men returned to their small ships and followed their commanding officer.

The sun grew larger and the heat more intense with each minute, since each minute brought them almost thirteen hundred miles closer to the sun's blazing surface. With the humidity-control and air-cooling mechanisms in the space suits working at top capacity but affording little relief, Alfie, Roger, Shinny, and Astro buried the fourth reactor unit and headed for the fifth and last emplacement. Occasionally one of them would turn and cast a swift glance at the clear blue space overhead, secretly hoping to find the rocket cruiser had returned. Or, they would strain their ears for Tom's voice counting off the minutes so carefully for them. But they saw nothing and they heard nothing. They concentrated on their jobs, working like demons to complete the installations as planned. They could not stop now and wonder what had happened to the *Polaris*, or even hope for its speedy return. They had a job to do, and they went about it silently, efficiently, and surely.

Astro stood up, the small spade in his hand hanging loosely at his side. He watched Roger and Alfie bring the last of the reactor units from Major Connel's jet boat. They gently lowered it into the hole and stepped back while Shinny, under the watchful eyes of Major Connel, set the fuse. Shinny stepped back, and Astro began covering up the lead box.

"That's it," said Connel. "We're finished!"

What Connel meant was that they were finished with the placement of the reactor units, but he knew immediately that his words had been taken to mean something each felt but had not dared to put into words.

Connel started to correct this misunderstanding but caught himself in time. It would not do, he thought, for him to make excuses for what they knew to be the truth.

"All right, everyone in my jet boat," he snapped. "Astro, you and Roger take all the fuel out of the other boats and pour it into mine. It'll be a tight squeeze, but we can all fit into one craft. No use expending fuel wastefully."

Astro and Roger bent to the task of draining the fuel from their jet boats and loading it into Connel's.

Alfie came over to join them, while Shinny and Connel scanned the sky overhead for some sign of the *Polaris*.

"This is really a desperate situation to be in, isn't it, Roger?" asked Alfie.

"Offhand, I'd say yes," drawled Roger, "but since we've got two big huskies like Astro and Major Connel along, I don't think we'll have much trouble."

"Why not?" asked Alfie.

"We'll just let them get out and help push!"

"And if that doesn't work," snorted Astro, "we'll stick Manning outside and let him talk about himself. That oughta give us enough gas to get us away from this hunk of copper."

"I believe," said Alfie emphatically, "that you're joshing me, Manning."

"Now, whatever gave you that idea?" asked Roger in a hurt tone.

"This *is* a serious situation, isn't it?" asked Alfie, looking at Astro.

"It sure is, Alfie," said Astro soberly, "and I'm the first one to say I'm a little scared!"

Alfie smiled. "I'm very glad you said that, Astro," he said, "because I feel exactly the same way!" He turned and walked back to Major Connel.

"What was the idea of telling him that?" hissed Roger at Astro. "What are you trying to do? Get the little guy space happy, or something?"

"Look at him!" said Astro. "I'm twice his size. He figures if a big guy like me is scared, then he's got a right to be scared too!"

Roger grunted in appreciation of the way Astro had treated Alfie's fears and turned back to the loading of the fuel.

Major Connel walked over and watched them transfer the last of the fuel into the tanks.

"How much have you got there, Astro?" he asked.

"I'd say enough to sustain flight for about three hours, sir. Considering we'll have such a big load."

"Ummmmh," mused Connel. "You know we're up against big odds, don't you?"

Roger and Astro nodded.

"If Tom doesn't come back soon, we'll be so far into the pull of the sun, even a ship the size of the *Polaris* wouldn't be able to break out."

"How much time have we got, sir?" asked Roger.

"Not too much, Manning," said Connel. "Of course we can blast off in the jet boat and get up a few hundred miles, in case Tom does come back. Then

he won't have to bring the *Polaris* down here. But if time runs out on us up there, we'll have to come back and take our chance on Junior being blasted out of the sun's grip."

There was a pause while Astro and Roger considered this.

"That would mean," asked Roger, "that we'd be here when the reactor units go off, wouldn't it, sir?"

"That's right, Manning," said Connel, admitting to the danger. "Even if Junior were blasted out of the pull of the sun, we couldn't survive the explosions."

"Couldn't we blast off in the jet boat and then land after the explosions, sir?" asked Astro.

"Yes," admitted Connel, "we could do that. But the radioactivity would be so powerful we couldn't last more than a few days. We have no antiradiation gear. Not even food or water." He paused and scanned the sky. "No," he said in a surprisingly casual voice, "the only way we can get out of this is for Tom to come back and get us."

Shinny and Alfie came over and joined the group around the jet boat. No one said anything. There wasn't anything to say. Each of them felt the heat burning through his space suit. Each felt the same fear tugging at his throat. There was nothing to say. The *Polaris* was not to be seen; the sky was empty of everything except Alpha Centauri, the great burning mass of gases that once they had all seen only as a quiet twinkling star in the heavens, never dreaming that someday it would be pulling them relentlessly into its molten self.

* * * * *

Tom Corbett had a plan.

He sat at the control board of the great rocket cruiser, apparently watching the needles and gauges on the panel, but his mind was racing desperately. The two-hour deadline had just passed. The great solar clock had swung its red hand past the last second. Only a miracle could save the five men on Junior now. But Tom was not counting on miracles. He was counting on his plan.

"Keep this space wagon driving, Corbett!" ordered Loring from behind him. "Keep them rockets wide open!"

"Listen, Loring," pleaded Tom. "How about giving those fellows a break? If I don't pick them up, they'll all be killed."

"Ain't that too bad," snarled Mason.

"Look," said Tom desperately, "I'll promise you nothing will happen to you. We'll let you go free. We'll—"

Loring cut him off. "Shut your trap and concentrate on them controls! You

and Major Connel and them other punks are the only guys between me staying free or going back to a prison asteroid. So you don't think I'm going to let them stay alive, do you?" He grinned crookedly.

"You dirty space crawler!" growled Tom and suddenly leaped up from the control seat.

Loring raised the paralo-ray gun threateningly. "One more move outta you and I'll freeze you so solid you'll think you're a chunk of ice!" he yelled.

Mason stepped to the other side of the control deck. They had Tom blocked on either side.

"Now get back to them controls, Corbett," snarled Loring, "or I'll give it to you right now."

"O.K., Loring, you win," said Tom. He sat down and faced the control panel. He tried hard not to smile. They had fallen for it. Now they were separated. Mason remained on the opposite side of the room. Tom took a deep breath, crossed his fingers, and put the next step of his plan into action. He reached out and pulled the master acceleration switch all the way back. The *Polaris* jumped ahead as if shot out of a cannon.

"Hey," growled Mason, "what're you doing?"

"You want more speed, don't you?" demanded Tom.

"O.K.," said Mason, "but don't try any funny stuff!"

"I don't see how I can. You've got me nailed with that paralo-ray," Tom replied.

He got up leisurely, so as not to excite the nervous trigger finger of Loring, and turned slowly.

"What is it this time?" demanded Loring.

"I just gave you an extra burst of speed. All the *Polaris* will take. Now I've got to adjust the mixture of the fuel, otherwise she'll kick out on you and we'll have to clean out the tubes."

"Yeah," sneered Loring. "Well, I happen to know you do that right on the control board." He motioned with the paralo-ray gun. "Get back down!"

"On regular space drive, you do," agreed Tom. "But we're on hyperdrive now. It has to be done there"—he pointed to a cluster of valves and wheels at one side of the control deck—"one of those valve wheels."

"Stay where you are," said Mason. "I'll do it!" He moved to the corner. "Which one is it?" he asked.

Tom gulped and struggled hard to keep the terrible nervousness out of his voice. He had to sound as casual as possible. "The red one. Turn it to the right, hard!" he said.

Loring sat down and Mason bent over the valve wheel. He gave the wheel a vicious twist. Suddenly there was the sound of a motor slowing down somewhere inside the great ship. Tom gripped the edge of the control board and waited. Slowly at first, but surely, Tom felt himself beginning to float off his chair.

"Hey!" yelled Mason. "I'm—I'm floating!"

"It's the gravity generators," yelled Loring. "Corbett's pulled a fast one. We're in free fall!"

Tom lifted his feet and pushed as hard as he could against the control panel. He shot out of the chair and across the control room just as Loring fired his ray gun. There was a loud hiss as the gun was fired, and then the thud of a body against the wall, as Loring was suddenly shoved by the recoil of the charge.

Tom huddled in the upper corner of the control deck like a spider, his legs drawn up underneath him waiting for Mason to fire. But the smaller spaceman was tumbling head over heels in the center of the room. The more he exerted himself, the more helpless he became. His arms and legs splayed out in an effort to level himself, as he kept trying to fire the ray gun.

Tom saw his chance and lunged through the air again, straight at the floating spaceman. He passed him in mid-air. Mason made an attempt to grab him, but Tom wrenched his body to one side and pulled the ray gun out of the other's hand.

He flipped over and turned his attention to Loring who was more dangerous, since he was now backed up against a bulkhead waiting for Tom to present a steady target. Loring started to fire, but Tom saw him in time and shot away from the wall toward the hatch. He twisted his body completely around, and with his shoulder hunched over, fired at Loring with his ray gun. The charge hit the target and Loring became rigid, his body slowly floating above the deck. His back to the wall, braced for the recoil, Tom brought his arm around slowly and aimed at Mason. He fired, and the spaceman stiffened.

Tom smiled. Neither of the spacemen would give him any more trouble now. He pushed slightly to the left and shot over to the valve that Mason had unwittingly turned off. Tom turned it on and clung to an overhead pipe until he felt the reassuring grip of the synthetic gravity pull him to the deck. Loring and Mason, in the same positions they had been in when Tom fired, settled slowly to the deck. Tom walked over and looked at both of them. He knew they could hear him.

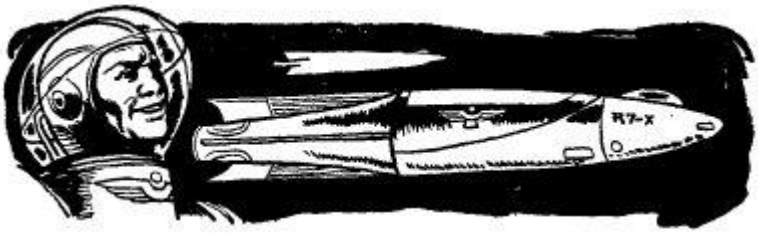
"For smart spacemen like you two," said Tom, "you sure forgot your basic physics. Newton's laws of motion, remember? Everything in motion tends to keep going at the same speed, unless influenced by an outside force. Firing the ray gun was the outside force that will land you right on a prison asteroid! And you'd better start praying that I can pull those fellows off that satellite, because if I don't, you'll wind up frying in the sun with us!"

He started to drag them to a locker and release them from the effects of the ray blast, but, remembering their cold-blooded condemnation of Connel and the others to death on the satellite, he decided to let them remain where they were.

He turned to the control board and flipped on the microphone. He was too far away to pick up an image on the teleceiver, but the others could hear him on the audio, if, thought Tom, they were still alive.

"Attention! Attention! *Polaris* to Major Connel! Major Connel, can you hear me? Come in, Major Connel—Astro—Roger—somebody—come in!"

He turned away from the mike and fired the starboard jets full blast, making a sweeping curve in space and heading the *Polaris* back to Junior.



CHAPTER 20

"There's only one answer, boys," said Connel. "Loring and Mason have escaped and taken over the ship. I can't think of any other reason Tom would abandon us like this."

The jet boat was crowded. Alfie, the smallest, was sitting on Astro's lap. For more than an hour they had circled above the copper satellite, searching the surrounding skies in vain for some sign of the *Polaris*.

"Major," said Roger, who was hunched over the steering wheel of the small space craft, "we're almost out of fuel. We'd better drop down on the night side of Junior, the side away from the sun. At least there we'd be out of the direct heat."

"Very well, Roger," said Connel. "In fact, we could keep shifting into the night side every hour." Then he added quietly, thoughtfully, "But we're out of fuel, you said?"

"Yes, sir," said Roger. "There's just enough to get down." Roger sent the craft in a shallow dive. Suddenly the rockets cut out. The last of the fuel was gone. Roger glided the jet boat to a smooth stop on the night side of the planetoid.

"How much longer before the reactor units go up?" asked Shinny.

Connel turned, thinking he had heard something on the communicators, then answered Shinny's question. "Only four hours," he said.

The crew of spacemen climbed out of the jet boat into the still blackness of the night side of the planet. There wasn't anything left to do.

They sat around on the hard surface of the planet, staring at the strange stars overhead.

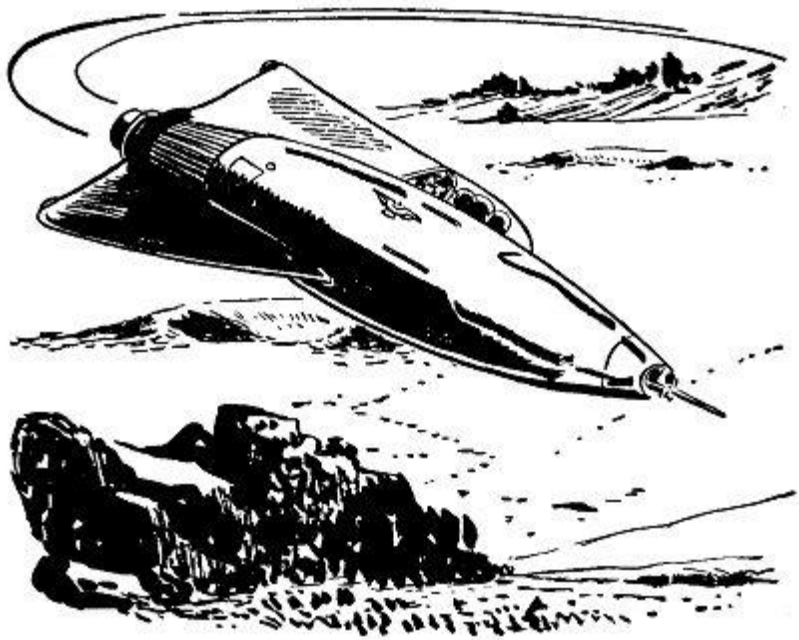
"You know," said Astro, "I might be able to set up something to convert some of the U235 in the reactors to fuel the jet boat."

"Impossible, Astro," said Alfie. "You'd need a reduction gear. And not only that, but you haven't any tools to handle the mass. If you opened one of those boxes, you'd be fried immediately by the radiation!"

"Alfie's right," said Connel. "There's nothing to do but wait."

Major Connel turned his face up as far as he could in the huge fish-bowl helmet to stare at the sky. His eyes wandered from star cluster to star cluster, from glowing Regulus, to bright and powerful Sirius. He stifled a sigh. How much he had wanted to see more—and more—and more of the great wide, high, and deep! He remembered his early days as a youth on his first trip to Luna City; his first sensation at touching an alien world; his skipper, old, wise, and patient, who had given him his creed as a spaceman: "Travel wide, deep, and high," the skipper had said to the young Connel, "but never so far, so wide, or so deep as to forget that you're an Earthman, or how to act like an

Earthman!" Even now, years later, the gruff voice rang in his ears. It wasn't long after that that he had met Shinny. Connel smiled behind the protection of his helmet, as he looked at the wizened spaceman, who was now old and toothless, but who still had the same merry twinkle in his eye that Connel had noticed the first time he saw him. Connel had signed on as first officer on a deep spacer bound for Titan. Shinny had come aboard and reported to Connel as rocketman. Shinny had promptly started roaring through the passageways of the huge freighter in his nightshirt singing snatches of old songs at the top of his voice. It had taken Connel four hours to find where Shinny had hidden the bottle of rocket juice! Connel laughed. He looked over at the old man fondly.



"Say, Nick," said Connel, addressing the man by his given name for the first time, "you remember the time it took me four hours to find that bottle of rocket juice you hid on that old Titan freighter?"

Shinny cackled, his thin voice coming over the headphones of the others as well as Connel's.

"I sure do, Lou!" replied Shinny, using Connel's first name. They were just old spacemen now, reliving old times together. "Funny thing, though, you never knew I had two more bottles hidden in the tube chamber!"

"Why, you old space crawler!" roared Connel. "You put one over on me!"

Roger and Astro and Alfie had never known Connel's first name. They rolled the name over in their minds, fitting the name to the man. Unknown to each other, they decided that the name fitted the man. Lou Connel!

"Say, Lou," asked Shinny, "where in the blessed universe did you come from? You never told me."

There was a long pause. "A place called Telfair Estates, in the deep South on the North American continent. I was raised on a farm close by. I used to go fishing late at night and stare up at the stars." He paused again. "I ran away from home. I don't know if—if—anyone's still there or not. I never went back!"

There was a long silence as each man saw a small boy fishing late at night, barefoot, his toes dangling in the water, a worm wiggling on the end of a string, more interested in the stars that twinkled overhead than in any fish that might swim past and seize the hook.

"Where are you from, Nick?" asked Connel.

"Born in space," cackled Shinny, "on a passenger freighter carrying colonists out to Titan. Never had a breath of natural fresh air until I was almost a grown man. Nothing but synthetic stuff under the atmosphere

screens. My father was a mining engineer. I was the only kid. One night a screen busted and nearly everybody suffocated or froze to death. My pa and ma was among 'em. I blasted off after that. Been in the deep ever since. And you know, by the blessed rings of Saturn, I'd be on a nice farm near Venusport, living on a pension, if you hadn't kicked me out of the Solar Guard!"

"Why, you broken down old piece of space junk," roared Connel, "I oughta —" Connel never finished what he was going to say.

"Attention! Attention! Roger—Astro—Major Connel—come in, please! This is Tom on the *Polaris*!"

As if they had been struck by a bolt of lightning, the five spacemen sat up and then raced to the jet boat.

"Connel to Corbett!" roared the major. "Where are you? What happened?"

"I haven't got time to explain now, sir," said Tom. "Loring and Mason escaped and forced me to take them to Tara. I managed to overcome them and blast back here. Meet me up about fifty miles above Junior, sir. I'm bringing the *Polaris* in!"

"No!" yelled Connel. "It's no use, Tom. We're out of fuel. We've used up all our power."

"Then stand by," said Tom grimly. "I'm coming in for a landing!"

"No, Tom!" roared Connel. "There's nothing you can do. We're too far into the sun's pull. You'll never blast off again!"

"I don't care if we all wind up as cinders," said Tom, "I'm coming in!"

The communicator went dead and from the left, over the close horizon of the small satellite, the *Polaris* swept into view like a red-tailed fire dragon. It shot up in a pretouchdown maneuver, and then began to drop slowly to the surface of the planetoid.

No sooner had the *Polaris* touched the dry airless ground than the air-lock hatch was opened. From the crystal port on the control deck, Tom waved to the men below him.

Shinny climbed into the lock first, followed by Astro, Alfie, Roger, and Connel. While Roger and Alfie closed the hatch, Astro and Connel adjusted the oxygen pressure and waited for the supply to build to normal. At last the hissing stopped, and the hatch to the inner part of the ship opened. Tom greeted them with a smile and an outstretched hand.

"Glad to have you aboard!" he joked.

After the back slapping between Roger, Astro, and Tom was over, Connel questioned Tom on his strange departure from the satellite.

"It was just like I told you, sir," explained Tom. "They got out of the brig," he paused, not mentioning the spoon that Loring had used or how he had gotten it. "They forced me to take them to Tara. I managed to get the gravity turned off and gave them a lesson in free-fall fighting. They're still frozen stiff up on the control deck."

"Good boy!" said Connel. "I'll go and have a talk with them. Meantime,

Astro, you and Shinny and Alfie get below and see how much fuel we have in emergency supply. We're going to need every ounce we have."

"Aye, aye, sir," said Astro. The three hurried to the power deck.

Connel followed Roger and Tom to the control deck. Loring and Mason were still in the positions they were in when Tom had fired his paralo-ray. Connel took Tom's gun and switched to the neutralizer. He fired twice and the two men rose shakily to their feet. Connel faced them, his eyes burning.

"I'm going to say very little to you two space-crawling rats!" snapped Connel. "I'm not going to lock you in the brig; I'm not going to confine you in any manner. But if you make one false move, I'll court-martial you right here and now! You've caused enough trouble with your selfishness, jeopardizing the lives of six men. If we fail to get off this satellite, it'll be because *you* put us in this position. Now get below and see what aid you can give Astro. And if either of you so much as raises your voice, I'm going to let *him* take care of you! Is that clear?"

"Yes, sir!" mumbled Loring. "We understand, sir. And we'll do everything we can to—to—make up for what we've done."

"The only thing you can do is to stay out of my sight!" said Connel coldly.

Loring and Mason scuttled past Connel and climbed down to the power deck.

"Attention! Attention! Control deck—Major Connel! Sir, this is Roger on the radar bridge. I just checked over Tom's figures on thrust, sir, and I'm not sure, but I think we've passed the point of safety."

"Thanks, Roger," said Connel. He turned to the intercom. "Power deck, check in!"

"Power deck, aye," said Astro.

"Loring and Mason there?" asked Connel.

"Yes, sir. I'm putting them right to work in the radiation chamber, sir. I'm piling all emergency fuel into the reaction chambers to try for one big push!"

"Why?" asked Connel.

"I heard what Roger said, sir," replied Astro. "This'll give us enough thrust to clear the sun's gravity, but there's something else that might not take it."

"What?" asked Connel.

"The cooling pumps, sir," said Astro. "They may not be able to handle a load as hot as this. We might blow up."

Connel considered this a moment. "Do what you can, Astro. I have absolute faith in you."

"Aye, aye, sir," said Astro. "And thank you. If this wagon holds together, I'll get her off."

Connel turned to Tom who stood ready at the control panel.

"All set, sir," said Tom. "Roger's given me a clear trajectory forward and up. All we need is Astro's push!"

"Unless Astro can build enough pressure in those cooling pumps to handle the overload of reactant fuel, we're done for. We'll get off this moon in

pieces!"

"Power deck to control deck."

"Come in, Astro," said Tom.

"Almost ready, Tom," said Astro. "Maximum pressure is eight hundred and we're up to seven seventy now."

"Very well, Astro," replied Connel. "Let her build all the way to an even eight hundred and blast at my command."

"Aye, aye, sir," said Astro.

The mighty pumps on the power deck began their piercing shriek. Higher and higher they built up the pressure, until the ship began to rock under the strain.

"Stand by, Tom," ordered Connel, "and if you've ever twisted those dials, twist them now!"

"Yes, sir," replied Tom.

"Pressure up to seven ninety-one, sir," reported Astro.

"Attention! All members strap into acceleration cushions!"

One by one, Shinny and Alfie, Loring and Mason, Astro and Roger strapped themselves into the acceleration cushions. Roger set the radar scanner and strapped himself in on the radar bridge. Connel slumped into the second pilot's chair and took over the controls of the ship, strapping himself in, while Tom beside him did the same. The whine of the pumps was now a shrill whistle that drowned out all other sounds, and the great ship bucked under the force of the thrust building in her heart.

In front of the power-deck control panel Astro watched the pressure gauge mount steadily.

"Pressure up to seven ninety-six, sir," he called.

"Stand by to fire all rockets!" roared Connel.

"Make it good, you Venusian clunk," yelled Roger.

"Seven ninety-nine, sir!" bellowed Astro.

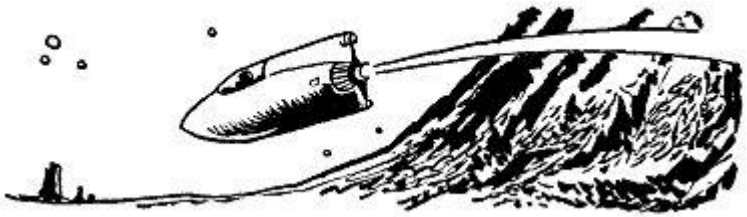
Astro watched the gauge of the pressure creep slowly toward the eight-hundred mark. In all his experience he had never seen it above seven hundred. Shinny, too, his merry eyes shining bright, watched the needle jerk back and forth and finally reach the eight-hundred mark.

"Eight hundred, sir," bellowed Astro.

"Fire all stern rockets!" roared Connel.

Astro threw the switch. On the control board, Connel saw a red light flash on. He jammed the master switch down hard.

It was the last thing he remembered.



CHAPTER 21

Tom stirred. He rolled his head from side to side. His mouth was dry and there was a sick feeling in the pit of his stomach. He opened his eyes and stared at the control panel in front of him. Instinctively he began to check the dials and gauges. He settled on one and waited for his pounding heart to return to normal. His eyes cleared, and the gauge swam into view. He read the figures aloud:

"Distance in miles since departure—fourteen thousand, five hundred…"

Something clicked. He let out a yell.

"We made it! We made it!" He turned and began to pound Connel on the back. "Major Connel! Major, wake up, sir! We made it. We're in free fall! Junior's far behind us!"

"Uh—ah—what—Tom? What?" Connel said, rolling his eyes. In all his experience he had never felt such acceleration. He glanced at the gauge.

"Distance," he read, "fifteen thousand miles." The gauge ticked on.

"We made it, sir!" said Tom. "Astro gave us a kick in the pants we'll never forget!"

Connel grinned at Tom's excitement. There was reason to be excited. They were free. He turned to the intercom, but before he could speak, Astro's voice roared into his ears.

"Report from the power deck, sir," said Astro. "Acceleration normal. Request permission to open up on hyperdrive."

"Permission granted!" said Connel.

"Look, sir," said Tom, "on the teleceiver screen. Junior is getting his bumps!"

Connel glanced up at the screen. One by one the white puffs of dust from the reactor units were exploding on the surface of the planetoid. Soon the whole satellite was covered with the radioactive cloud.

"I'm sure glad we're not on that baby now," whispered Tom.

"Same here, spaceman!" said Connel.

It was evening of the first full day after leaving Junior before the routine of the long haul back to Space Academy had begun. The *Polaris* was on automatic control, and everyone was assembled in the messroom.

"Well, boys," said Connel, "our mission is a complete success. I've finished making out a report to Space Academy, and everything's fine. Incidentally, Manning," he continued, "if you're worried about having broken your word when you escaped from the space station, forget it. You more than made up

for it by your work in helping us get Loring and Mason."

Roger smiled gratefully and gulped, "Thank you, sir."

Loring and Mason, who had eaten their meal separately from the others, listened silently. Loring got up and faced them. The room became silent.

Loring flushed.

"I know we're going to be sent to the prison asteroid and we deserve it," said

"I'd like to say something," he began haltingly, "if I can?"

"Go ahead," said Connel.

"Well," said Loring, "it's hard to say this, but Mason and myself, well—" He paused. "I don't know what happened to us on the first trip out here, Major, but when we saw that satellite, and the copper, something just went wrong inside. One thing led to another, and before we knew it, we were in so deep we couldn't get out."

The faces around the table were stony, expressionless.

"Nobody deserves less consideration than me and Mason. And—well, you know yourself, sir, that we were pretty good spacemen at one time. You picked us for the first trip out to Tara with you."

Connel nodded.

"And well, sir, the main thing is about Jardine and Bangs. I know we're going to be sent to the prison asteroid and we deserve it. But we been thinking, sir, about Jardine's and Bang's wives and kids. They musta lost everything in that crash of the *Annie Jones*, so if the major would recommend that Mason and me be sent to the Titan mines, instead of the rock, we could send our credits back to help take care of the kids and all."

No one spoke.

"That's all," said Loring. He and Mason left the room.

Connel glanced around the table. "Well?" he asked. "This is your first struggle with justice. Each of you, Tom, Roger, Astro, Alfie, will be faced with this sort of thing during your careers as spacemen. What would you do?"

The four cadets looked at each other, each wondering what the other would say. Finally Connel turned to Alfie.

"You're first, Alfie," said Connel.

"I'd send them to the mines, sir," said Alfie.

Connel's face was impressive. "Roger?"

"Same here, sir," replied Roger.

"Astro?" asked Connel.

"I'd do anything to help the kids, sir," said Astro, an orphan himself.

"Tom?"

Tom hesitated. "They deserve the rock, sir. I don't have any feeling for them. But if they go to the rock, that doesn't do any more than punish them. If they go to the mines, they'll be punished and help someone else too. I'd send them to Titan and exile them from Earth forever."

Connel studied the cadets a moment. He turned to Shinny.

"Think they made a good decision, Nick?"

"I like what young Tommy, here, had to say, Lou," answered Shinny. "Best part about justice is when the man himself suffers from his own guilty

feelings, rather than what you do to him as punishment. I think they did all right!"

"All right," said Connel. "I'll make the recommendation as you have suggested." Suddenly he turned to Shinny. "What about you in all this, Nick? I don't mean that you were hooked up with Loring and Mason. I know you were just prospecting and you've proved yourself to be a true spaceman. But what will happen to you now?"

"I'll tell you what's going to happen to me," snapped Shinny. "You're going to re-enlist me in the Solar Guard, right here! Right now!"

"What?" exploded Connel.

"And then you're going to retire me, right here, right now, with a full pension!"

"Why you old space-crawling—" Suddenly he looked around the table and saw the laughing faces of Tom, Roger, Astro, and Alfie.

"All right," he said, "but between your enlistment and your retirement, I'm going to make you polish every bit of brass on this space wagon, from the radar mast to the exhaust tubes!"

Shinny smiled his toothless smile and looked at Tom.

"Get the logbook, Tommy," he said. "This is official. I'm going to do something no other man in the entire history of the Solar Guard ever did before!"

"What's that, Mr. Shinny?" asked Tom with a smile.

"Enlist, serve time, and retire with a full pension, all on the same blasted spaceship, the *Polaris*!"

THE END

TOM CORBETT
SPACE CADET
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By CAREY ROCKWELL
WILLY LEY Technical Adviser

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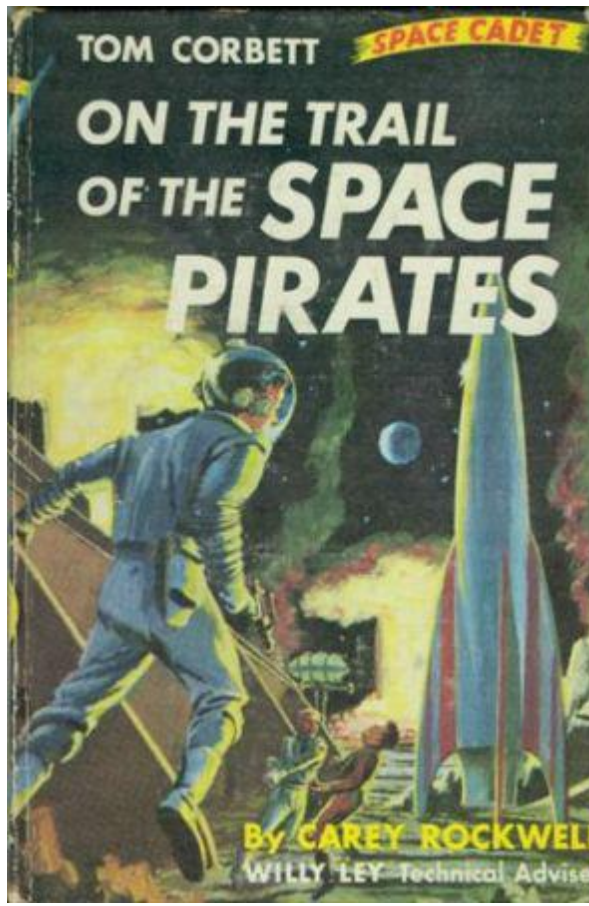

ON THE TRAIL OF THE SPACE PIRATES

A TOM CORBETT Space Cadet Adventure

By CAREY ROCKWELL

WILLY LEY *Technical Adviser*

ILLUSTRATIONS BY LOUIS GLANZMAN

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CHAPTER 1

"ALL ABOARD!"

A metallic voice rasped over the loud-speakers and echoed through the lofty marble and aluminum concourse of the New Chicago Monorail Terminal. "Atom City express on Track Seven! Space Academy first stop! Passengers for Space Academy will please take seats in the first six cars!"

As the crowd of people waiting in the concourse surged through the gate leading to Track Seven, three boys in the royal-blue uniforms of the Space Cadet Corps slowly picked up their plastic space bags and joined the mass of travelers.

Wearily, they drifted with the crowd and stepped on the slidestairs leading down to the monorail platform. In the lead, Tom Corbett, the command cadet of the unit, a tall, curly-haired boy of eighteen, slouched against the handrail and looked back at his two unit-mates, Roger Manning and Astro. Manning, a slender cadet, with close-cropped blond hair, was yawning and blinking his eyes sleepily, while Astro, the third member of the unit, a head taller than either of his unit-mates and fifty pounds heavier, stood flat-footed on the step, eyes closed, his giant bulk swaying slightly with the motion of the slidestairs.

"Huh! A real snappy unit!" Tom muttered to himself.

"Hmmm? What?" Roger blinked and stared bleary-eyed at Tom.

"Nothing, Roger," Tom replied. "I only hope you guys can stay awake long enough to get on the monorail."

"It's your own fault, Tom," rumbled Astro in his bull-like voice. "If your family hadn't thrown so many parties for us while we were on leave, we'd have had more sleep."

"I didn't hear any complaints then," snorted Tom. "Just get into the car before you cork off, will you? I'm in no shape to carry you."

Seconds later, the slidestairs deposited the three boys on the platform and they slowly made their way through the crowd toward the forward cars of the monorail. Entering the third car, they found three seats together and collapsed into their luxurious softness.

"Oh, brother!" Tom groaned as he curled himself into the cushions, "I'm going to sleep all the way to the Academy."

"I'm asleep already," mumbled Roger, his voice muffled by his cap pulled low over his face.

Suddenly Astro sat bolt upright. "I'm hungry!" he announced.

"Oh, no!" moaned Tom.

"Why, you overgrown Venusian ape, Mrs. Corbett gave you dinner less than an hour ago!" Roger complained. "Steak, French fries, beans, corn, pie, ice cream…"

"Two helpings," chimed in Tom.

"And now you're hungry!" Roger was incredulous.

"Can't help it," calmly answered Astro. "I'm a big guy, that's all." He began digging through his space bag for an apple Mrs. Corbett had thoughtfully provided.

Tom finally stirred and sat up. He had learned a long time ago the futility of trying to deny Astro's Gargantuan appetite. "There's a dining car on this section of the monorail, Astro," he said, slapping a crumpled mass of credits into the Venusian's hamlike hand. "Here. Have yourself a good time." He slumped back in his seat and closed his eyes.

"Yeah," growled Roger, "and when you come back, don't make any noise!"

Astro smiled. He got up carefully and climbed over his two sleeping mates. Standing in the aisle, he counted the credits Tom had given him and turned to the front of the car. Suddenly a heavy voice growled behind him.

"One side, spaceboy!"

A hand grabbed him by the shoulder and pushed him to one side. Caught off balance, Astro fell back on his sleeping unit-mates.

"Hey! What th—" stuttered Astro as he sprawled on top of his friends. The two sleepy cadets came up howling.

"Astro! What in blazes do you think you're doing?" roared Tom.

"Why, you space-brained idiot," yelled Roger, "I ought to lay one on your chin!"

There was a tangle of arms and legs and finally the three cadets struggled to their feet. Astro turned to see who had pushed him.

Two men standing at the end of the car grinned back at him.

"It was those two guys at the end of the car," explained Astro. "They pushed me!" He lumbered toward them, followed by Tom and Roger.

Stopping squarely in front of them, he demanded, "What's the big idea?"

"Go back to your beauty rest, spaceboy!" jeered the heavier of the two men and turned to his companion, adding with a snarl, "How do you like his nerve? We not only have to pay taxes to support these lazy kids and teach them how to be spacemen, but they're loud-mouthed and sassy on top of it!"

The other man, smaller and rat-faced, laughed. "Yeah, we oughta report them to their little soldier bosses at Space Academy."

Astro suddenly balled his fists and stepped forward, but Tom grabbed his arm and pulled him back while Roger eased himself between his mates and the two grinning men.

"You know, Tom," he drawled, looking the heavier of the two right in the eye, "the only thing I don't like about being a Space Cadet is having to be polite to *all* the people, including the space crawlers!"

"Why, you little punk," sneered the bigger man, "I oughta wipe up the deck with you!"

Roger smiled thinly. "Don't try it, mister. You wouldn't know what hit you!"

"Come on, Wallace," said the smaller man. "Leave 'em alone and let's go."

Astro took another step forward and roared, "Blast off. Both of you!"

The two men turned quickly and disappeared through the door leading to the next monorail car.

The three cadets turned and headed back down the aisle to their seats.

"Let's get some sleep," said Tom. "We better be in good shape for that new assignment when we hit the Academy. No telling what it'll be, where we'll go, or worse yet, when we'll blast off. And I, for one, want to have a good night's rest under my belt."

"Yeah," agreed Roger, settling himself into the cushions once more. "Wonder what the orders will be. Got any ideas, Tom?"

"No idea at all, Roger," answered Tom. "The audiogram just said report back to the Academy immediately for assignment."

"Hey, Astro!" exclaimed Roger, seeing the Venusian climb back into his seat. "Aren't you going to eat?"

"I'm not hungry any more," grunted Astro. "Those guys made me lose my appetite."

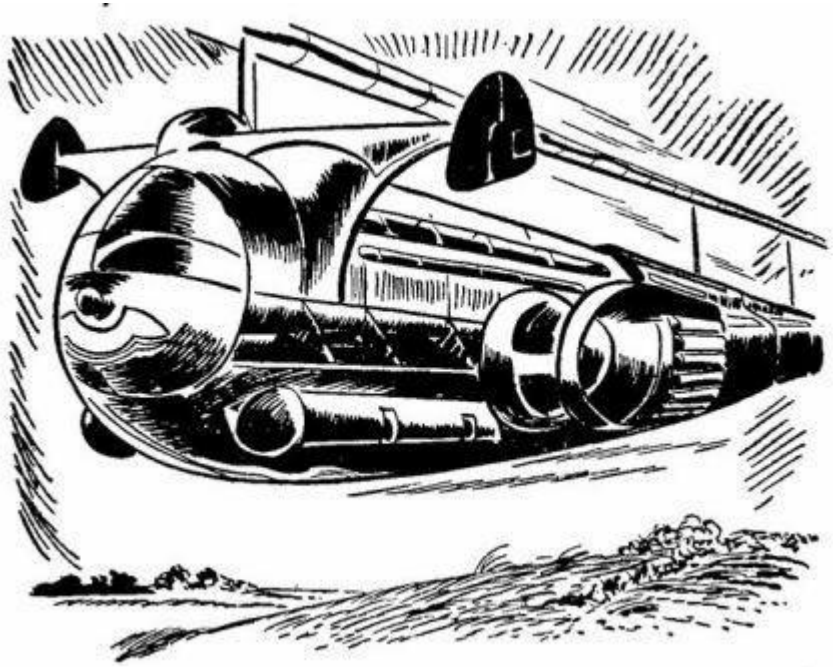
Tom looked at Roger and winked. "Maybe we'd better tell Captain Strong about this, Roger."

"Why?"

"Get Astro mad enough and he won't want to eat. The Academy can cut down on its food bills."

"Ah, rocket off, you guys," growled Astro sleepily.

Tom and Roger smiled at each other, closed their eyes, and in a moment the three cadets of the Polaris unit were sound asleep.



Suspended from a single gleaming rail that stretched across the western plains like an endless silver ribbon, the monorail express hurtled through the early dawn speeding its passengers to their destination. As the gleaming line of streamlined cars crossed the newly developed grazing lands that had once been the great American desert, Tom Corbett stirred from a deep sleep. The slanting rays of the morning sun were shining in his eyes. Tom yawned, stretched, and turned to the viewport to watch the scenery flash past. Looming up over the flat grassy plains ahead, he could see a huge bluish mountain range, its many peaks covered with ever-present snow. In a few moments Tom knew the train would rocket through a tunnel and then on the other side, in the center of a deep, wide valley, he would see Space Academy, the university of the planets and headquarters of the great Solar Guard.

He reached over and shook Roger and Astro, calling, "All right, spacemen, time to hit the deck!"

"Uh? Ah-ummmh!" groaned Roger.

"Ahhhoooohhhhhh!" yawned Astro. Standing up, he stretched and touched the top of the monorail car.

"Let's get washed before the other passengers wake up," said Tom, and headed for the morning room. Astro and Roger followed, dragging their feet and rubbing their eyes.

Five minutes later, as the sleek monorail whistled into the tunnel beneath

the mountain range, the boys of the *Polaris* unit returned to their seats.

"Back to the old grind," sighed Roger. "Drills, maneuvers, books, lectures. The same routine, day in day out."

"Maybe not," said Tom. "Remember, the order for us to report back was signed by Commander Walters, not the cadet supervisor of leaves. I think that means something special."

Suddenly the monorail roared out of the tunnel and into brilliant early-morning sun again.

The three cadets turned quickly, their eyes sweeping the valley for the first sight of the shining Tower of Galileo.

"There it is," said Tom, pointing toward a towering crystal building reflecting the morning light. "We'll be there in a minute."

Even as Tom spoke, the speed of the monorail slackened as it eased past a few gleaming structures of aluminum and concrete. Presently the white platform of the Academy station drifted past the viewport and all forward motion stopped. The doors opened and the three boys hurried to the exit.

All around the cadets, men and women in the vari-colored uniforms of the Solar Guard hurried through the station. The green of the Earthworm cadets, first-year students of the Cadet Corps; the brilliant rich blue of the senior cadets like the *Polaris* unit; the scarlet red of the enlisted Solar Guard; and here and there, the black and gold of the officers of the Solar Guard.

The three cadets hurried to the nearest slidewalk, a moving belt of plastic that glided silently across the ground toward Space Academy. It whisked them quickly past the few buildings nestled around the monorail station and rounded a curve. The three cadets looked up together at the gleaming Tower of Galileo. Made of pure Titan crystal, it soared above the cluster of buildings that surrounded the grassy quadrangle and dominated Space Academy like a translucent giant.

The cadets stepped off the slidewalk as it glided past the Tower building and ran up the broad marble stair. At the huge main portal, Tom stopped and looked back over the Academy grounds. All around him lay the evidence of mankind's progress. It was the year 2353, when Earthman had long since colonized the inner planets, Mars and Venus, and the three large satellites, Moon of Earth, Ganymede of Jupiter, and Titan of Saturn. It was the age of space travel; of the Solar Alliance, a unified society of billions of people who lived in peace with one another, though sprawled throughout the universe; and the Solar Guard, the might of the Solar Alliance and the defender of interplanetary peace. All these things Tom saw as he stood in the wide portal of the Tower Building, flanked by Astro and Roger.

Turning into the Tower, the three cadets went directly to the office of their unit commander. The training program at Space Academy consisted of three cadets to a unit, with a Solar Guard officer as their teacher and instructor. Steve Strong, captain in the Solar Guard, had been their cadet instructor since the unit had been formed and he now smiled a welcome as the cadets snapped

to attention in front of his desk.

"*Polaris* unit reporting as ordered, sir," said Tom, handing over the audiogram order he had received the day before.

"Thank you, Corbett," said Strong, taking the paper. "At ease."

The three boys relaxed and broke into wide grins as Strong rounded his desk and shook hands with each of them.

"Glad to have you back, boys," he said. "Did you enjoy your leave?"

"And how, sir," replied Tom.

"Tom's mother showed us a whale of a good time," chimed in Roger.

"And how she can cook!" Astro licked his lips involuntarily.

"Well, I hope you had a good rest—" said Strong, but was suddenly interrupted by the sound of a small bell. Behind his desk a small teleceiver screen glowed into life to reveal the stern face of Commander Walters, the commander of Space Academy.

Strong turned to the teleceiver and called, "Yes, Commander Walters?"

"Did the *Polaris* unit arrive yet, Steve?" asked the commander.

"Yes, sir," replied Strong. "They're here in my office now, sir."

"Good," said the commander with a smile. "I just received a report the exposition will open sooner than expected. I suggest you brief the cadets and raise ship as soon as possible."

"Very well, sir," answered Strong. The screen darkened and he turned back to the cadets. "Looks like you got back just in time."

"What's up, sir?" asked Tom.

Strong returned to his chair and sat down. "I suppose you've all heard about the Solar Exposition that opens on Venus next week?"

Tom's eyes lit up. "Have we! That's all the stereos and visunews and teleceivers have been yacking about for weeks now."

"Well," said Strong with a smile, "we're going!"

The three cadets couldn't restrain themselves and burst out in a happy shout. Then Roger calmed down enough to comment, "Sounds more like another vacation than an assignment, sir."

"Hardly, Manning," replied Strong. "You see, every industry, society, organization, and governmental agency is setting up exhibits at the exposition to show the people what's taking place in their part of the solar system. There'll also be an amusement section." Strong chuckled. "I've seen pictures of some of the tricks and rides they've developed to entertain the younger generation. Believe me, I'd rather take full acceleration on a rocket ship than ride on any of them."

"But what will we do, sir?" asked Tom.

"Our job is very simple. We're to take the *Polaris* to the exposition and land on the fairgrounds. When the fair opens, we show all the visitors who are interested, everything about her."

"You mean we're going to be"—Roger swallowed—"guides?"

"That's right, Manning," said Strong. "You three will guide all visitors

through the *Polaris*."

"How long will we be there, sir?" asked Tom.

"A month or so, I guess. The *Polaris* will be the first Academy exhibit. When you leave, another unit will replace you with their ship and do the same thing."

"But—but—" stammered Astro, "what will we say to them? The visitors, I mean?"

"Just answer all their questions, Astro. Also, make up a little speech about the functions of your particular station."

Strong looked at his watch and rose to his feet. "It's getting late. Check the *Polaris* over and stand by to raise ship in an hour."

"Yes, sir," said Tom.

The cadets came to attention, preparing to leave.

"One thing more! Don't get the idea that this is going to be a space lark," said Strong. "It's very important for the people of the Solar Alliance to know what kind of work we're doing here at the Academy. And you three have been selected as representatives of the entire Cadet Corps. So see that you conduct yourselves accordingly. All right, dismissed!"

The three cadets saluted sharply and filed out of the room, their skipper's final words ringing in their ears.

Fifteen minutes later, having packed the necessary gear for the extended trip, the *Polaris* unit rode the slidewalk through the grassy quadrangle and the cluster of Academy buildings, out toward the spaceport. In the distance they could see the rocket cruiser *Polaris*, poised on the launching ramp, her long silhouette outlined sharply against the blue sky. Resting on her four stabilizer fins, her nose pointed toward the stars, the ship looked like a giant projectile poised and ready to blast its target.

"Look at her!" exclaimed Astro. "If she isn't the most beautiful ship in the universe, I'll eat my hat."

"Don't see how you could," drawled Roger, "after the way you put away Mrs. Corbett's pies!"

Tom laughed. "I'll tell you one thing, Roger," he said, pointing to the ship, "I feel like that baby is as much my home as Mom's and Dad's house back in New Chicago."

"All right, all right," said Roger. "Since we're all getting sloppy, I have to admit that I'm glad to see that old thrust bucket too!"

Presently the three cadets were scrambling into the mighty spaceship, and they went right to work, preparing for blast-off.

Quickly, with sure hands, each began a systematic check of his station. On the power deck Astro, a former enlisted Solar Guardsman who had been admitted to the Cadet Corps because of his engineering genius, stripped to the waist and started working on the ship's massive atomic engines. A heavy rocketman's belt of tools slung around his waist, he crawled through the heart of the ship, adjusting a valve here, turning a screw there, seeing that the

reactant feeders were clean and clear to the rocket firing chambers. And last of all he made sure the great rocket firing chambers were secure and the heavy sheets of lead baffling in place to protect him from deadly radioactivity.

On the radar bridge in the nose of the ship, Roger removed the delicate astrogation prism from its housing and cleaned it with a soft cloth. Replacing it carefully, he turned to the radar scanner, checking the intricate wiring system and making sure that the range finders were in good working order. He then turned his attention to the intercom.

"Radar bridge to control deck," he called. "Checking the intercom, Tom."

Immediately below, on the control deck, Tom turned away from the control panel. "All clear here, Roger. Check with Astro."

"All clear on the power deck!" The big Venusian's voice boomed over the loud-speaker. The intercom could be heard all over the ship unless the many speakers were turned off individually.

Tom turned his attention back to the great control panel, and one by one tested the banks of dials, gauges, and indicators that controlled the rocket cruiser. Tom Corbett had wanted to be a Space Cadet as long as he could remember. After taking the entrance exams, he had been accepted for the rigid training that would prepare him to enter the ranks of the great Solar Guard. He had met his two unit-mates, Roger and Astro, on his very first day at the Academy, and after a difficult beginning, adjusting to each other's personalities and the discipline of the Academy routine, the three boys had become steadfast friends.

As control-deck cadet and pilot, Tom was head of the unit, second-in-command to Captain Strong. And while he could issue orders to Astro and Roger and expect to be obeyed, the three cadets all spoke their minds when it came to making difficult decisions. This had solidified the three cadets into a fighting, experienced, dependable unit.

Tom made a final check on the gravity generator and turned to the intercom.

"All departments, report!" he called.

"Radar bridge checks in O.K.," replied Roger.

"Power deck checks in on the nose, Tom," reported Astro.

"Right! Stand by! We blast as soon as the skipper gets around."

Tom turned to the teleceiver and switched it on. The screen blurred and then steadied into a view of the spaceport outside. Tom scanned the launching ramp below, and, satisfied it was clear, he switched the teleceiver to the spaceport traffic-control circuit.

"Rocket cruiser *Polaris* to spaceport control," he called. "Come in, spaceport control. Request orbit clearance."

"Spaceport traffic control to *Polaris*," reported the traffic officer, his face in focus on the teleceiver screen. "Your orbit has been cleared for blast-off. Orbit number 3847—repeat, 3847—raise ship when ready!"

"Orbit 3847," repeated Tom. "End transmission!"

"End transmission," said the officer. Tom flipped off the teleceiver and the officer's face disappeared.

At the rear of the control deck, Captain Strong suddenly stepped through the hatch and dropped his black plastic space bag on the deck. Tom got up and saluted sharply.

"*Polaris* ready to blast off, sir," he said. "Orbit cleared."

"Very well, Corbett," replied Strong, returning the salute. "Carry on!"

Tom turned back to the control board and flipped on the intercom. "Control deck to power deck! Energize the cooling pumps!"

"Cooling pumps, aye!" said Astro.

From the power deck, the massive pumps began their whining roar. The great ship shuddered under the pressure.

Tom watched the gauge that indicated the pressure control and then called into the intercom.

"Radar bridge, do we have a clear trajectory?'

"All clear forward and up, Tom," reported Roger from the radar bridge.

"Strap in for blast-off!" bawled the curly-haired cadet.

Captain Strong took his place in the pilot's chair next to Tom and strapping himself in snapped out, "Feed reactant!"

Spinning a small wheel at the side of the control panel, Tom reported, "Feeders at D-9 rate, sir!"

Then, as the hiss of fuel pouring into the mighty engines of the ship blended with the whine of the pumps, Tom snapped out a third order. "Cut in take-off six yards!"

Receiving acknowledgment from below, he grasped the master blast-off switch and watched the sweeping hand of the astral chronometer.

"Stand by to raise ship!" he yelled. "Blast off minus—five—four—three—two—one—*zero*!"

He pulled the switch.

Slowly, the rockets blasting evenly, the giant ship lifted itself free of the ground. Then, gaining speed, it began rocketing away from the Earth. Like a giant shining bullet, the great spaceship blasted through the dark void of space, her nose pointed to the distant misty planet of Venus.

Once again Tom Corbett and his unit-mates had embarked on a mission for the Solar Guard.

CHAPTER 2

"Stand by for touchdown!" bellowed Captain Strong's voice on the big spaceship's intercom.

"Control deck standing by," replied Tom.

"Corbett," Strong continued, "you may take her down as soon as you get clearance from Venusport traffic control."

Tom acknowledged the order with a brisk "Aye, sir! In a few moments he received permission to touch down on the newly colonized planet. Then, turning his attention to the control board, he requested a ground-approach check from Roger.

"About two miles to touchdown, Tom," reported Roger from the radar bridge. "Trajectory clear!"

"O.K., Roger," said Tom. Glancing quickly at the air speed and rocket thrust indicators, he flipped a switch and sang out, "Power deck, reduce thrust on main drive rockets to minimum!"

"Got ya, Tom," boomed Astro.

"Closing in fast, sir," said Tom to Strong, who had come up from below and now stood at the cadet's shoulder watching as Tom maneuvered the big ship through the Venusian atmosphere, his keen eyes sweeping the great panel of recording gauges and dials.

"One thousand feet to touchdown," intoned Roger from the radar bridge.

Reacting swiftly, Tom adjusted several levers, then picking up the intercom microphone, he threw a switch and yelled, "Power deck! Full braking thrust!"

Deep inside the *Polaris*, Astro, who tended the mighty rocket power plant with loving care, eased home the sensitive control mechanism, applying even pressure to the braking rockets.

As the giant spaceship settled smoothly to within a few feet of the surface of the concrete spaceport, Tom threw the master switch that cut all power. A moment later the huge craft dropped easily, then settled on the landing platform with a gentle thump.

"Touchdown!" yelled Tom. Then, glancing at the astral chronometer on the control board, he turned to Strong, and saluting smartly, reported, "*Polaris* completes space flight at exactly seven fifty-two-O-two!"

Strong returned the salute. "Very well, Tom. Now, I want you, Roger, and Astro to come with me to the exposition commissioner's office for an interview and detailed orders."

"Yes, sir," said Tom.

A few minutes later, dressed in fresh uniforms, the three cadets followed their unit commander out of the ship, then stood by as Strong ordered the chief petty officer of an enlisted Solar Guard working party to prepare the *Polaris* for moving to the exposition site.

"Empty the reactant fuel tanks of all but enough for us to raise ship and touch down over to the fairgrounds," said Strong. "Better strip her of armament, too. Paralo-ray pistols and rifles, the three-inch and six-inch atomic blasters, narco sleeping gas; in fact, everything that could possibly cause any trouble."

"Yes, sir," replied the scarlet-clad enlisted spaceman.

"One thing more," added Strong. "There will be a crew living aboard, so please see that the galley is stocked with a full supply of both fresh and synthetic foods. That's about all, I guess."

"Very well, sir," replied the petty officer with a crisp salute. He turned and began bawling orders to a squad of men behind him and immediately they were swarming over the great ship like ants.

Fifteen minutes later, a jet cab swerved to a stop in front of the tallest of the Venusport buildings, the Solar Alliance Chamber. Strong paid the driver, adding a handsome tip, and flanked by his three cadets strode briskly into the building.

Crossing a high-ceilinged lobby, they entered an express vacuum elevator and five seconds later stepped out onto the four-hundredth floor. There, Strong slid a panel door to one side, and, followed by the cadets, stepped inside the office of Mike Hawks, exposition commissioner and retired senior officer of the Solar Guard.

The office was impressively large and airy, with an outside wall forming a viewport of clear Titan crystal reaching from floor to vaulted ceiling and affording a magnificent view of the city of Venusport and, beyond it, the futuristic buildings of the exposition itself. Another wall, equally as large, was covered by a map of the exposition grounds.

Mike Hawks, a man with steel-gray hair, clear blue eyes, and a ramrod military bearing, sat behind a massive desk talking to two men. He looked up when Strong and the cadets walked in and rose quickly with a broad smile to greet them.

"Steve!" he exclaimed, rounding the desk to shake hands with his old friend. "I never dreamed we'd have you and the *Polaris* unit at our fair!" He nodded warmly to the cadets who stood at rigid attention. "At ease, cadets. Glad to have you aboard."

"I was just as surprised to get this assignment, Mike," said Strong, pumping the officer's hand. Nodding toward the men seated in front of Hawks' desk, he apologized, "Sorry to bust in on you like this, old man. Didn't know you were busy."

"It's quite all right." The commissioner smiled. "Just handing out a few licenses for the concessions in the amusement section at the fair. People

expect to have a little fun when they go to a fair, you know. By the stars, they're going to have it so long as I'm commissioner." He turned to the cadets. "Sit down, boys. You too, Steve. I'll be with you in a minute." He turned back to his desk and the waiting men.

The cadets, at a nod from Strong, sat down on a leather couch that stretched the length of one wall and listened while Hawks completed his business with the two men.

"There you are," said Hawks, applying the seal of his office to a slip of paper. "That gives you the right to operate a concession in the amusement area as long as the fair is open."

One of the men took the paper and glanced at it quickly.

"Wait a minute, Commissioner. This is over near the edge of the area," he complained. "We wanted to get in the middle. How do you expect us to make any credits away out there by ourselves?" The man's tone was surly and disrespectful.

"Sorry, but that's the only location left. In fact," Hawks added acidly, "you're lucky to get it!"

"Really?" sneered the heavier of the two. "Well, I'm sure going to find out about this!"

Hawks stood up and eyed the two men coldly. "I've been appointed commissioner of this exposition by the delegates to the Solar Alliance Council. I answer only to the council. If you have a complaint, then you must present your case before that body." He cleared his throat and glared at them from behind his desk. "Good day, gentlemen!" he said.

Hawks stood up and eyed the two men coldly

Hawks stood up and eyed the two men coldly

The two men, who until now had been seated facing the desk, got up, and after glaring at Hawks, turned and walked toward the door. Tom gasped, and grabbing Roger by the arm, involuntarily pointed at the two men.

"Look, Roger—those men—" he whispered.

"Yeah," said Roger. "Those are the wise-guy space crawlers we met on the monorail, the ones who called us punks!"

"How'd they get here so fast?" asked Astro.

"Must have taken a jetliner from Atom City, I guess."

Strong, who sat near Tom, heard the exchange between the cadets.

"You know those men?" he asked.

"Well—uh—not exactly, sir. We just had a little run-in with them on the monorail returning from leave, that's all," said Tom. "Nothing serious. They

don't think much of the Solar Guard, though."

"I gathered as much," said Hawks dryly. He walked over from his desk. "I hated to give them the license to operate, but I had to, since I had no valid reason to turn them down. They have a good idea, too."

"That so? What is it?" asked Strong.

"They have an old chemical-burning space freighter in which they're going to take fair visitors up for a short ride. You see, the big one, Gus Wallace, is an old deep-space merchantman. The smaller one is Luther Simms, a rocketman."

"Hm. Not a bad idea at all," mused Strong. "They should make out all right."

With that, the two Solar Guard officers dropped the incident of Wallace and Simms and turned to exchanging news of mutual friends and of what each had been doing since their last meeting. Finally, as the conversation was brought around to the exposition, Hawks got up and sat on the side of the desk, facing Strong and the cadets. His eyes glowed as he spoke.

"Steve," he said, "this is going to be the greatest gathering of minds, thoughts, and ideas in the knowledgeable history of mankind! There are going to be lectures from the greatest minds in the system on any and all subjects you can think of. In one building we're going to build a whole spaceship—a rocket cruiser—piece by piece, right in front of the eyes of fair visitors. In another building we're going to have the greatest collection of musicians in the universe, continuously playing the most beautiful music, in a hall built to seat a half million people. Industry, science, medicine, art, literature, astrophysics, space flight, to say nothing of a comparative history exhibit designed to show the people where our forefathers went off the track by warring against each other. In fact, Steve, everything you can think of, and then more, will be represented here at the exposition. Why, do you know I've been working for three years, co-ordinating ideas, activity, and information!"

Strong and the cadets sat transfixed as they listened to the commissioner speak in glowing terms of the exposition, which, until this time, by the cadets at least, had been considered little more than a giant amusement park. Finally Strong managed to say, "And we thought the *Polaris* was going to be so big, it'd be the center of attraction." He smiled.

Hawks waved his hand. "Look, I don't want to offend you or the boys, Steve, but the fact is, the *Polaris* is one of the *smaller* exhibits!"

"I can see that now," answered Strong. "Tell me, Mike, just what do you want us to do?"

"I'll answer that in two parts. First, I would like the cadets to set up the *Polaris*, get her shining and bright, and with quiet courtesy, answer any question anyone might ask concerning the ship, referring any question they can't answer to the information center in the Space Building."

"That's all, sir?" asked Tom incredulously.

"That's all, Corbett. You open the *Polaris* at nine in the morning and close

her at nine at night. You'll be living aboard, of course."

"Yes, sir. Of course, sir."

"That sounds so simple," drawled Roger, "it might be tough."

"It will be tough, Manning," commented Hawks. "Don't fool yourself into assuming otherwise."

"Don't worry about these boys, Mike. Now, what is part two?" Strong asked.

Hawks smiled. "Here it is, Steve. The Solar Alliance has decided to open the exposition with a simple speech made by a relatively unknown person, but one who is deserving of such an honor. They left the choice of that person up to me." He paused and added quietly, "I'd like you to make that opening speech, Steve."

"Me!" cried Strong. "Me, make a speech?"

"I can't think of anyone more deserving—or dependable."

"But—but—" stammered the captain, "I can't make a speech. I wouldn't know what to say."

"Say anything you want. Just make it short and to the point."

Strong hesitated a moment. He realized it was a great honor, but his naturally shy personality kept him from accepting.

"Steve, it may make it easier for you to know," said Hawks teasingly, "that there's going to be a giant capsule lowered into the ground which will contain a record of every bit of progress made since the inception of the Solar Alliance. It's designed to show the men of the future how to do everything from treating a common cold to exploding nuclear power. This capsule will be lowered at the end of your opening address. So, most of the attention will be focused on the capsule, not you." The commissioner smiled.

"All right, Mike," said Strong, grinning sheepishly. "You've got yourself a speechmaker!"

"Good!" said Hawks and the two men shook hands.

Tom Corbett could contain himself no longer. "Congratulations, sir!" he blurted out as the three cadets stood up. "We think Commissioner Hawks couldn't have made a better choice!" His unit-mates nodded a vigorous assent.

Strong shook hands with the cadets and thanked them.

"You want the cadets for anything right now, Mike?" asked Strong.

"Not a thing, Steve."

Strong turned back to the boys. "Better hop out to the spaceport and get the *Polaris* over the exposition site, cadets. Soon as you set her down, clean her up a little, then relax. I'll be at the Galaxy Hotel if you need me."

"Yes, sir," said Tom.

The cadets saluted sharply and left the office.

Arriving at the spaceport, they found the *Polaris* stripped of her guns and her galley stocked with food. The chief petty officer in charge of the enlisted spacemen detail was roving through the passageways of the rocket cruiser when Tom found him.

"Everything set, chief?" asked Tom.

"All set, Cadet Corbett," reported the elderly spaceman, saluting smartly. He gave Tom a receipt for the list of the equipment that had been removed from the ship and signed the logbook. Tom thanked him and made a hurried check of the control deck, with Roger and Astro reporting from the radar and power decks. With the precision and assurance of veteran spacemen, the three Space Cadets lifted the great ship up over the heart of the sprawling Venusian city and brought it down gently in the clearing provided for it at the exposition site, a grassy square surrounded on three sides by buildings of shimmering crystal walls.

No sooner had the giant ship settled itself to the ground, than a crew of exposition workers began laying a slidewalk toward her, while another crew began the construction of an aluminum staircase to the entrance port in her giant fin.

Almost before they realized it, Tom, Roger, and Astro found themselves busy with a hundred little things concerning the ship and their part in the fair. They were visited by the subcommissioner of the exposition and advised of the conveniences provided for the participants of the fair. Then, finally, as a last worker finished the installation of a photoelectric cell across the entrance port to count visitors to the ship, Tom, Roger, and Astro began the dirty job of washing down the giant titanium hull with a special cleaning fluid, while all around them the activity of the fair buzzed with nervous excitement.

Suddenly the three cadets heard the unmistakable roar of jets in the sky. Automatically, they looked up and saw a spaceship, nose up, decelerating as it came in for a touchdown on a clearing across one of the wide spacious streets of the fairgrounds.

"Well, blast my jets!" exclaimed Astro, his eyes clinging to the flaming exhausts as the ship lowered itself to the ground.

"That craft must be at least fifty years old!"

"I've got a rocket-blasting good idea, Tom," said Roger.

The exit port of the spaceship opened, and the three cadets watched Gus Wallace and Luther Simms climb down the ladder.

"Hey," yelled Roger, "better be careful with that broken-down old boiler. It might blow up!"

The two men glared at the grinning Roger but didn't answer.

"Take it easy, Roger," cautioned Tom. "We don't want to start anything that might cause us and Captain Strong trouble before the fair even opens. So let's leave them alone."

"What are you afraid of?" drawled Roger, a mischievous gleam in his eyes. "Just a little fun with those guys won't hurt." He stepped to the side of the clearing and leaned over the fence separating the two areas.

"Tell me something, spaceman," he yelled to Wallace, who was busy with some gear at the base of the ship, "you don't expect people to pay to ride that thing, do you?" He smiled derisively and added, "Got insurance to cover the

families?"

"Listen, punk!" sneered Wallace, "get back over to your Solar Guard space toy and keep your trap shut!"

"Now—now—" jeered Roger, "mustn't get nasty. Remember, we're going to be neighbors. Never can tell when you might want to borrow some baling wire or chewing gum to keep your craft together!"

"Look, wise guy, one more crack out of you, and I'll send you out of this world without a spaceship!" snarled Wallace through grating teeth.

"Any time you'd like to try that, you know where I am," Roger snapped back.

"Okay, punk! You asked for it," yelled Wallace. He had been holding a length of chain and now he swung it at Roger. The cadet ducked easily, hopped over the fence, and before Wallace knew what was happening, jolted him with three straight lefts and a sharp right cross. Wallace went down in a heap, out cold.

Luther Simms, who had been watching the affair from one side, now rushed at Roger with a monkey wrench. With the ferocity of a bull, Astro roared at the small spaceman, who stopped as if pulled up by a string. Roger spun around, made an exaggerated bow, and smiling, asked, "Next?"

At this point, aware that things were getting a bit thick, Tom strode across the clearing, and grabbing the still smiling Roger, pulled him away.

"Are you space happy?" he asked, "You know you goaded him into swinging that chain, Roger. And that makes you entirely responsible for what just happened!"

"Yeah," growled Astro. "Suppose he had hit you with it, then what?"

Roger, still grinning, glanced over his shoulder and saw Simms helping Wallace to his feet. He turned to Astro, threw his arm over the big cadet's shoulder, and drawled, "Why, then you'd have just taken them apart to avenge me! Wouldn't you, pal?"

"Aw, stow it," snapped Tom. For a second Roger looked at him sharply, then broke into a smile again. "O.K., Tom, I'm sorry," he said. "O.K., let's get back to work," ordered Tom.

Back at the *Polaris*, as they continued cleaning the hull of the ship, Tom saw the two men disappear into their craft, throwing dirty looks back at the three cadets as they went.

"You know, Roger, I think you made a very bad mistake," he said. "One way or another, they'll try to even the score with you."

"And it won't be just a report to Captain Strong," added Astro darkly.

Roger, cocky and unafraid, broke out his engaging grin again and shrugged his shoulders.

CHAPTER 3

"…. And so we dedicate this capsule to the civilizations of the future. Those who may dig this cylinder out of the ground in ages to come will find within it the tools, the inventions, and the scientific wonders which have made the era of the Solar Alliance one of peace and lasting prosperity."

Captain Steve Strong paused, glanced at the huge crane and the shimmering steel capsule that dangled at the end of a cable, then called out, "Lower the capsule!"

The cheers of a hundred thousand people massed in the exposition plaza greeted the order. The stereo camera and teleceiver scanners that were sending the opening ceremonies of the Solar Exposition to all parts of the Alliance moved in to focus on the capsule as it was lowered into a deep, concrete-lined pit.

The three members of the *Polaris* unit, standing to one side of the platform, joined in the cheers as their skipper shook hands with the delegates and waved again and again at the roaring crowd.

"That was some speech, Tom," commented Roger. "I wonder who wrote it for him?"

"He wrote it himself, Roger," replied Tom.

"Ah, go on," scoffed Roger.

"Sure he did," said Astro indignantly. "He sweated over it for nearly a week."

"Here he comes," said Tom. The three cadets watched Captain Strong, resplendent in his dress gold-and-black uniform, fight his way off the platform, shaking hands with congratulating strangers along the way.

"Congratulations, Captain Strong," said Tom with a smile.

"That was swell!" Roger and Astro chorused their agreement.

"Thanks, boys," gasped Strong. "But let me tell you, I never want to do that again. I was never so scared in my life!"

"Just making a speech?" asked Roger. "After all the lectures you've given at Space Academy?"

"They weren't before teleceiver and stereo cameras." Strong laughed. "Do you realize this ceremony is being seen on Mars, Earth, and all the colonized moons, clear out to Titan."

"Wow!" breathed Astro. "That would make me tongue-tied!"

"Huh! All that to stick a metal box into the ground," snorted Roger.

"It's not the capsule, Roger," said Tom. "It's what's inside the capsule."

"Right, Tom," said Strong. "Inside that capsule scientists have packed the whole history of man's march through the stars. They've included scientific formulas, medical, cultural, and industrial facts. Everything we know. Even some things that are known by only a handful of the most trusted men in the universe!" Strong stopped suddenly and laughed. "There I go, making another speech! Come on. Let's get out of here," he cried.

"Do we start showing people through the *Polaris* now, sir?" asked Astro.

"In the morning, Astro," replied Strong. "Tonight there's a big Solar Alliance banquet. You three are invited, too."

"Er—" stammered Roger, "you mean—a banquet—with—uh—?"

Strong laughed. "More speeches? I'm afraid so, Manning. Of course there'll be plenty of food."

"Well, it's not that we're against speeches," ventured Astro.

"Not yours anyway, sir," added Tom hastily. "But what we mean, sir, is that —"

Strong held up his hand. "I understand perfectly. Suppose you stay here on the exposition grounds. Have a look around. See the sights, have some fun."

"Yes, sir!" The boys chorused their reply.

"Just don't spend all your credits at the first booth," continued Strong. "And watch that Venusian cloud candy. It's good, but murder on the Earthman's stomach."

"Captain Strong!" A voice called from the platform above. It was one of the Venusian delegates. "They want some pictures of you!"

"Be right there, sir," replied Strong. He turned to the boys and smiled. "You're lucky you don't have to go through this. See you aboard ship later." Spinning quickly on his heel, he made his way back through the crowd to the platform.

"What a great guy," sighed Tom.

"Sure is," agreed Astro.

"Well, fellas," announced Roger, "we've got twelve hours liberty and a small scale model of the whole solar system to have fun in! What're we waiting for?"

Fighting their way through the crowds in the plaza, the three boys finally reached the amusement area where they wandered among gaily colored booths and plastic tents, their eyes lighting up with each new attraction.

Two hours later, stuffed with spaceburgers and Martian water, their arms loaded with assorted prizes, won by Astro's prowess in the weight-lifting booth, Tom's skill as a marksman, and Roger's luck at the wheels of chance, the cadets wearily returned to the Polaris.

As they neared their section of the fair site they heard a harsh voice appealing to a small crowd around the stand in front of Wallace and Simms' spaceship. A huge sign spelled out the attraction: RIDE IN SPACE—ONE CREDIT.

Luther Simms, a bamboo cane in one hand, a roll of tickets in another, was

hawking his attraction to the bystanders.

"Step right up, ladies and gentlemen! Step right up! It's a thrill of a lifetime, the greatest sensation of the entire exposition. Ride a rocket ship, and all this for one credit! A lone, single credit, ladies and gents, will buy you a pathway to the stars! Step right up—"

In laughing groups, the crowd around the stand began to purchase tickets and climb aboard the old freighter.

The three cadets watched from the outer edge of the crowd.

"Hey, fellas," said Roger suddenly, "whaddya say we go?"

"What?" gulped Astro. "On that thing?"

"Why not?" urged Roger.

"But that hulk should have been shipped back to the scrap furnace years ago!" Tom protested.

"So what, Junior?" drawled Roger. "Scared?"

"Don't be silly," replied Tom. "But with all the other things to do here, why should we—"

"Oh," said Astro, nudging Tom, "now I get it!"

"You get what?" asked Roger innocently.

"Those girls," said Astro. "They're just climbing aboard."

Glancing at the air lock, Tom saw three young and pretty girls file into the ship. "Oh, so that's it, huh?" he said, looking quizzically at his unit-mate.

Tom saw three pretty girls board the ship

Tom saw three pretty girls board the ship

The blond cadet's eyes were wide with mock surprise.

"Girls? Well, what do you know about that? I never noticed!"

"Yeah, I'll bet you didn't!" said Tom.

"Well, they *are* trim little space dolls. And there are three of them!"

"Come on, Astro," sighed Tom. "We have to give the little boy his fun."

They walked toward the stand where Simms was still making his pitch to the crowd.

"Just five more seats left, ladies and gentlemen, only five chances to blast into space…"

Tom stepped up and put three credits on the counter. "Three, please," he said.

Simms looked down and suddenly stopped his harangue. His eyes narrowed with suspicion as he saw the three cadets standing before him. Hesitating, he glanced around, seemingly looking for help. Then, shrugging his shoulders, he

handed over the tickets and turned to the crowd. "Three tickets for the Space Cadets, who live out there in space. Just can't stay away from it, eh, boys?"

"I only hope that tub of yours holds together," said Tom.

Simms snarled out of the side of his mouth, "Shut up, wise guy!" And then continued aloud, "Yes, Space Cadet, I agree with you. Everyone should take a trip into space."

Tom started to protest, but then shrugged his shoulders and followed Roger and Astro into the ship. On the stand, Simms continued his appeal to the crowd.

"Just two more tickets left, ladies and gentlemen! Who'll be the lucky two?"

Suddenly Gus Wallace appeared from behind the ship and approached the stand, calling, "Hey, Simms!"

Simms stopped speaking and turned to his partner. "Yeah?"

"Everything's all set. Let's blast off!"

"I'll be with you as soon as I sell the last two tickets," said Simms. "Here you are, ladies and gents, the last two—"

Wallace grabbed him by the arm and yanked him from the stand. "I said we blast off, you idiot! You want to risk everything for two lousy credits?"

"O.K., O.K. Don't blow a fuse!"

Simms quickly closed the stand, turned out the lighted sign, and followed Wallace into the old freighter. He then collected the tickets and made sure all the passengers were strapped into their acceleration chairs and finally went below to the power deck. Wallace disappeared into the control room and seconds later his voice was heard over the ship's intercom gruffly announcing the blast-off. The lights in the cabin dimmed, the air was filled with a low whining hiss, and for an instant the old ship bucked and groaned. Suddenly, with a loud explosive roar, she blasted into the sky and began a sluggish arching climb into space.

"All right, fellas," said Roger, after the force of acceleration eased off, "let's try a little encircling maneuver on those girls up ahead."

"Oh, no, Roger," answered Tom. "You're flying solo on that project!"

"Yeah, you go ahead, Romeo." Astro laughed. "I'd like to see the Manning technique in action."

A loud explosion suddenly rocked the spaceship.

"What was that?" cried Roger. "Maybe this old tub won't make it after all!"

Astro smiled. "This is a chemical burner, remember? Her initial acceleration isn't enough. They have to keep blasting her to make speed."

"Oh, sure," drawled Roger, relaxing again and watching the girls ahead. "Well, here I go!" He got up and lurched down the aisle running between the seats.

"Hey there!" roared Simms, who had suddenly appeared at the power-deck hatch. "Keep your seat!"

"Who, me?" asked Roger.

"Not your Aunt Tilly, wise guy! Sit down and shut up!"

"Listen," said Roger, "you don't seem to realize—"

"I realize you're going to sit down or else!" snarled Simms.

Roger retreated to his seat and sat down. "Ah, go blast your jets," he grumbled as Simms continued up the aisle to the control deck.

Tom and Astro doubled over with laughter. "Welcome back, Roger," bellowed the big Venusian. "I don't think those girls are the sociable type, anyway."

"Wouldn't you know," moaned Roger, "that space creep had to show up just when I had the whole campaign laid out in my mind." He gazed sadly at the pert heads of the girls in front of him.

Tom gave Astro a wink. "Poor Manning. All set to go hyperdrive and ran into space junk before he cleared atmosphere."

Suddenly another explosion racked the ship and the rockets cut out all together. The passengers began to look around nervously.

"By the craters of Luna, what was *that*?" demanded Tom, looking at Astro.

"The rockets have cut out," answered the Venusian. "Hope we're out in free fall, beyond the pull of Venus' gravity."

The forward hatch of the passenger cabin opened and Simms reappeared followed by Wallace.

"Take it easy, folks," said Wallace, "nothing to get excited about. We're in free fall, holding a course around the planet. So just sit back and enjoy the view!"

A chorus of sighs filled the cabin and the passengers began laughing and chatting again, pointing out various sights on the planet below them. Smiling, Wallace and Simms marched down the aisle. Suddenly Roger and Tom rose and blocked their path.

"What's up, Wallace?" demanded Tom.

Wallace gave the two boys a hard look. "So it's you, huh? You got a lot of nerve coming aboard this ship."

"If there's something wrong, Wallace," said Tom, "maybe we could give you a hand."

"Get back in your seats," ordered Wallace. "We don't need any cadet squirts getting in our way!"

"Why, you overweight space jockey," snapped Roger, "we know more about spaceships than you'll ever learn!"

"One more crack out of you and I'll blast your ears off!" roared Wallace. *"Now sit down!"*

Roger's face turned a deep red and he moved toward Wallace, but Tom put out a restraining hand.

"Take it easy, Roger," he said. "Wallace is the skipper of this boiler. In space he's the boss."

"You bet I'm the boss," snarled Wallace. "Now keep that loud-mouthed punk quiet, or I'll wipe up the deck with him and send the pieces back to Space Academy!"

"Hey, Wallace," yelled Simms, who had walked away when the argument started. "Come on. We gotta fix that reactor unit!"

"Yeah—yeah," Wallace called back. He turned to Roger again. "Just remember what I said, cadet!" Brushing the boys aside, he strode down the aisle to join Simms.

As the two men disappeared through the power-deck hatch, Tom turned to Roger and tried to calm him down. "Skippers are skippers, Roger, even aboard a piece of space junk!"

"Yeah," growled Roger, "but I don't like to be called a squirt or a punk! Why, I know more about reactor units than—"

"Reactor units?" broke in Astro from his seat.

"Yeah. Didn't you hear what Simms said?"

"But this is a chemical burner," said Astro. "Why an atomic reactor unit aboard?"

"Might be a booster for extra speed," offered Tom. "And more power."

"On a simple hop like this? Hardly out of the atmosphere?" Astro shook his head. "No, Tom. It doesn't make sense."

"Well," chimed in Roger, "here's something else I've been wondering about. They charge one credit for this ride. Which makes a total of about fifty credits for a capacity load—"

"I get you," Tom interrupted. "It costs at least two hundred credits in fuel alone to get one of these chemical jalopies off the ground!"

Roger looked at Tom solemnly. "You know, Tom, I'd certainly like to know what those guys are doing. You just don't hand out free rides in space."

"How about snooping around?" asked Astro.

Tom thought a moment. "O.K. You two stay here. I'll go aft and see what they're doing."

Tom walked quickly to the stern of the ship, entered the power-deck hatch, and disappeared. Astro and Roger, each taking one side of the ship, strained for a look from the viewports. In a few minutes Tom returned.

"Spot anything?" asked Roger.

"I'm not so sure," answered Tom. "They weren't on the power deck and the cargo hatch was locked. I looked out the stern viewport, but all I could see was a thick black cloud."

"Well, that's no help," said Roger. Suddenly the blond cadet snapped his fingers. "Tom, I'll bet they're smugglers!"

"What?" asked Tom.

"That's it," said Roger. "I'll bet that's it. The concession is just a phony to cover up their smuggling. It lets them take a load of stuff up without a custom's search. Then, when they're far enough out—"

"They dump it," supplied Astro.

"Right!" agreed Tom finally. "What better place to hide something than in space?"

"For someone else to pick up later!" added Roger triumphantly.

When Wallace and Simms returned, the three cadets were busy looking out the viewports. And later, when the spaceship was letting down over the exposition grounds, Tom commented on the ease with which the ship made her approach for a touchdown.

"Roger," asked Tom quietly, "notice how she's handling now?"

"How do you mean?" asked Roger.

"Going out," said Tom, "she wallowed like an old tub filled with junk. Now, while she's no feather, there's a big difference in the way she's maneuvering!"

"Then they did dump something in space!" said Roger.

"I'm sure of it!" said Tom. "And from now on, we're going to keep our eyes open and find out what it is!"

CHAPTER 4

Tom glanced at the astral chronometer over the control board of the *Polaris* and sighed with relief. It was nine P.M. He turned to the intercom.

"Attention, please! Attention, please! The exhibit is now closing for the night. All visitors will kindly leave the ship immediately." He repeated the announcement again and turned to smile at the last lingering youngster ogling him before being yanked toward an exit by a tired and impatient mother.

The hatch to the radar bridge opened and Roger climbed down the ladder to flop wearily in the pilot's seat in front of the control panel.

"If one more scatterbrained female asks me how the astrogation prism works," groaned the blond cadet, "I'll give it to her and let her figure it out for herself!"

Astro joined them long enough to announce that he had made sandwiches and brewed hot chocolate. Tom and Roger followed him back to the galley.

Sipping the hot liquid, the three cadets looked at each other without speaking, each understanding what the other had been through. Even Astro, who normally would rather talk about his atomic engine than eat, confessed he was tired of explaining the functions of the reaction fuel force feed and the main valve of the cooling pumps.

"The worst of it is," sighed Astro, "they all pick on the same valve. What's so fascinating about one valve?"

Tom's job on the control deck was less tiring, since his was more of a command post, which demanded decisions, as conditions arose, rather than a fixed routine that could be explained. But even so, to be asked over and over what the astral chronometer was, how he could read time on Earth, Mars, Venus, Titan, Ganymede, and all the satellites at the same time was wearing on the toughest of young spirits.

Eager to forget the grueling day of questions and answers, the cadets turned their thoughts to the mysterious midnight activity that had been taking place around the spaceship concession during the last ten days.

"I just can't figure out what those guys are up to," said Roger, blowing on his hot chocolate. "We've watched those guys for over a week now and no one has even come near them with anything that could be smuggled."

"Could be a small package," suggested Astro, his mouth full of ham sandwich. "Somebody could take a ride and slip it to them."

"Hardly," said Tom. "Remember, that ship blasts off like she's loaded to the nose with cargo. And then she comes back like a feather. You can tell by the

sound of her jets. So it wouldn't be anything small enough for someone to carry."

"Yeah, I guess you're right," agreed Astro.

"Well," said Tom finally, "I'm stumped. I think the only thing left to do is to decide if it's anything important enough to tell Captain Strong about. Working on the *Polaris* twelve hours a day and staying up all night to watch those two jokers has me all in."

Roger and Astro looked at each other and then silently nodded their agreement.

"O.K.," said Tom, "we'll go to the skipper's hotel in Venusport and tell him the whole thing. Let's see what he makes of it."

* * * * *

At that moment Captain Strong was in the office of Exposition Commissioner Mike Hawks trying to make sense out of a series of reports that had landed on the commissioner's desk. Hawks watched him carefully as he studied the papers.

"You say this is the ninth report you've received since the fair opened, Mike?" asked Strong finally.

Hawks nodded. He hadn't known whether to laugh off or seriously consider the nine space skippers' reports that the sky over the exposition site was dirty.

"Yes, Steve," he said. "That one came from the skipper of an express freighter. He blasted off this morning and ran through this so-called dirt. He thought it was just a freak of nature but reported it to be on the safe side."

"I don't suppose he took a sample of the stuff?"

"No. But I'm taking care of that," replied Hawks. "There's a rocket scout standing by right now. Want to come along?"

"Let me finish these reports first."

"Sure thing."

As Strong carefully checked each report, Commissioner Hawks rose and began to stride restlessly back and forth across the spacious office. He stopped in front of the window and stared out over the exposition grounds, watching the thousands of holiday visitors streaming in and out of the buildings, all unaware of the strange mystery in the sky above them. Hawks' attention was drawn to the giant solar beacon, a huge light that flashed straight out into space, changing color every second and sending out the message: "Quis separabit homo"—Who shall separate mankind?

This beacon that at the beginning of the exposition had reached into the black void of space like a clean bright ray was now cloudy and murky—the result of the puzzling "dirty sky."

"All right, Mike," Strong announced suddenly. "Let's go."

"Get anything more out of those reports?" asked Hawks, turning back to his desk.

"No," replied the Solar Guard officer. "They all tell the same story. Right after blast-off, the ships ran into a dirty sky."

"Sounds kind of crazy, doesn't it?"

"Crazy enough to check."

Hawks pressed a button on the desk intercom.

"Yes, sir?" replied a metallic voice.

"Have the rocket scout ready for flight in five minutes," Hawks ordered. He snapped off the intercom without waiting for a reply and turned to Strong. "Let's go, Steve."

The two veteran spacemen left the office without further comment and rode down in the vacuum elevator to the highway level. Soon they were speeding out to the spaceport in Hawks' special jet car.

At the blast-pitted field they were met by a young Solar Guard officer and an elderly man carrying a leather case, who were introduced as Lieutenant Claude and Professor Newton.

While Claude prepared the rocket scout for blast-off, Strong, Hawks, and Newton discussed the possibility of lava dust having risen to great heights from another side of the planet.

"While I'm reasonably sure," stated Newton, "that no volcano has erupted recently here on Venus, I can't be sure until I've examined samples of this so-called dirt."

"I'll have Lieutenant Claude contact the University of Venus," said Hawks. "Their seismographs would pick up surface activity."

Claude stuck his head out of the hatch and reported the ship ready for blast-off. Strong followed the professor and Hawks aboard and strapped himself into an acceleration chair. In a moment they were blasting through the misty atmosphere of Venus into the depths of space.

Fifteen minutes later, Hawks and Strong were standing on the hull of the ship in space suits, watching the professor take a sample of a dirty black cloud, so thick it was impossible to see more than three feet. Strong called to the professor through the spacephone.

"What do you make of it, sir?" he asked.

"I wouldn't want to give you a positive opinion without chemical tests," answered the professor, his voice echoing in Strong's fish-bowl helmet. "But I believe it's one of three things. One, the remains of a large asteroid that has broken up. Two, volcanic ash, either from Venus or from Jupiter. But if it came from Jupiter, I don't see how it could have drifted this far without being detected on radar."

Now, holding a flask full of the black cloud, the professor started back to the air lock.

"You said three possibilities, professor," said Strong.

"The third," replied the professor, "could be—"

The professor was interrupted by Lieutenant Claude calling over the intercom.

"Just received a report from the University of Venus, sir!" said the young officer. "There's been no volcanic activity on Venus in the last ten years serious enough to create such a cloud."

Strong waited for the professor's reaction, but the elderly man was already entering the air lock. Before Strong and Hawks could catch up to him, the air-lock hatch slammed closed.

"Hey," exclaimed Strong, "what does he think he's doing?"

"Don't worry about it, Steve," replied Hawks. "He probably forgot we were out here with him, he's so concerned about this dirt. We'll just have to wait until he's out of the air lock."

The Solar Guard officer nodded, then looked around him at the thick black cloud that enveloped the ship. "Well," he said, "one of the professor's theories has been knocked out."

"Yes," replied Hawks. "Which means this stuff is either the remains of a large asteroid or—"

"The third possibility," finished Strong, "which the professor never explained."

Suddenly the air-lock hatch opened again and the two spacemen stepped inside. Closing the hatch behind them, they waited until the pressure was built up again to equal that of the ship, and then they removed their helmets and space suits.

The hatch opened again and the two spacemen entered the air lock

The hatch opened again and the two spacemen entered the air lock

Leaving the air lock and walking down the companionway, Hawks suddenly caught Strong by the arm.

"Have you considered the possibility of this cloud being radioactive, Steve?" he asked.

Strong nodded slowly. "That's all I've been thinking about since I first heard about it, Mike. I think I'd better report this to Commander Walters at Space Academy."

"Wait, Steve," said Hawks. "If you do that, Walters might close the exposition. Wait until you get a definite opinion from Professor Newton."

Strong considered a moment. "I guess a few more minutes won't make a lot of difference," he said finally. He realized how important the exposition was

to his old friend. But at the same time, he knew what would happen if a radioactive cloud suddenly settled on the city of Venusport without warning. "Come on. Let's see what the professor has to say about this stuff."

They found the professor on the control deck bending over a microscope, studying samples taken from the flask. He peered intently into the eyepiece, wrote something on a pad, and then began searching through the pages of a reference book on chemicals of the solar system.

Lieutenant Claude stepped up to Hawks and saluted sharply. "Power deck reports they've got a clogged line, sir. It's in the gas exhaust."

Strong and Hawks looked at each other, and then Hawks turned to the young officer. "Send a couple of men outside to clear it."

"Aye, aye, sir," said Claude, and then hesitated. "Shall the men wear lead suits against possible radioactivity, sir?"

Before Hawks could answer, Newton turned to face the three men. The professor was smiling. "No need to take that precaution, Lieutenant. I never did tell you my third opinion, did I, Captain Strong?"

"Why, no, you didn't, sir," said Strong.

The professor held up a sheet of paper. "Here's your answer. Nothing but plain old Venusport topsoil. Pure dirt!"

"What?" exclaimed Hawks hastily, reaching for the paper.

"Well, blast me for a Martian mouse," muttered Strong under his breath. "But how?"

Newton held up his hand. "Don't ask me how it got here. That isn't my line of work. All I know is that, without a doubt, the black cloud is nothing more than dirt. Plain ordinary dirt! And it comes from the area in and around Venusport. As a matter of fact, certain particles I analyzed lead me to believe it came from the exposition site!"

Hawks looked at Newton dumbfounded. "By the craters of Luna, man, we're a thousand miles over the exposition!"

The professor was stubborn. "I can't tell you how it got here, Commissioner Hawks. But I do know it's Venusian dirt. And that's final!"

Hawks stared at the elderly man for a second, still bewildered. Then he suddenly smiled and turned to Claude. "As soon as that exhaust is cleared, blast off for Venusport, Lieutenant. I'm going to find out who dirtied up the sky!"

* * * * *

Two hours later, when Captain Strong returned to his hotel in Venusport with Mike Hawks, he was surprised to see the three cadets of the *Polaris* crew slumped, sleepy-eyed, on a couch in the lobby.

"What are you doing here, boys?" he asked.

The three cadets came to attention and were wide awake immediately. Tom quickly related their suspicions of Wallace and Simms.

"And we've watched them every night, sir," Tom concluded. "I don't know what it is, but something certainly is going on in that shack they use for an office."

"Yes, sir," agreed Astro, "and no one is going to fool me about a rocket ship. I know when they blast off loaded and return light."

Strong turned to Hawks who said quietly, "Wallace and Simms are the only ones in this whole area that blast off regularly without a customs search."

"You mean," stammered Strong, "Wallace and Simms are dumping"—he could hardly say the word—"*dirt* in space?"

"They have a ship. The cadets say the ship blasts off loaded and returns light. And we've got the sky full of dirt. Venusian dirt!"

"But why?"

"I suggest we go out to the exposition grounds right now and ask them!" said Hawks coldly. "And believe me, they'd better have some rocket-blasting good answers!"

CHAPTER 5

The great educational exhibits had long been closed and only a few sections of the amusement park of the big exposition remained open. The giant solar beacon, its brilliant colors changing every second, maintained a solemn solitary watch over the exhibition buildings, while here and there groups of fair visitors wandered wearily back to their hotels.

There was a sudden flurry of activity at the space-ride concession. Gus Wallace and Luther Simms tumbled out of the shack and raced into their ship. Once inside the ancient craft, they secured the hatch and turned toward each other smiling broadly. Wallace stuck out his hand.

"Put 'er there, Simms. We did it!"

The two men shook hands heartily.

"By the craters of Luna," said Simms, "I thought we'd never make it! And if we did, that it wouldn't be there!"

"But it was, Simms! It was! And now we've got it!"

"Yeah," agreed the other. "I never worked so hard in all my life. But it's worth it. Are we going to set the Solar Guard back on its ear!"

Wallace laughed. "Not only that, but think of what the boss will say when we show up with it!"

"You know, Wallace," said Simms, a sly look on his face, "we could take it and use it ourselves—"

"Don't even think a thing like that!" snapped Wallace.

"Oh, of course not," said Simms hurriedly. "It doesn't pay to cross the boss. There's enough here for all of us."

"You know," mused Wallace, "there's only one thing I regret."

"What's that?" asked his partner.

"That I didn't get a chance to kick the space dust out of that punk, Cadet Manning!"

"Forget him," said Simms, waving his hand. "You'll meet him again someday. Besides, why think about him, when you've got the whole universe at your finger tips?"

"You're right. But someday I'm going to catch him and tear him apart!" snarled Wallace. "Come on. We've got to change over to atomic drive on this baby. I don't want to hang around here any longer than I have to."

"Yeah," said Simms. "Be pretty stupid if we're caught now!"

The two men climbed down into the power deck and began the job of refitting the freighter from chemical to atomic drive. Having already outfitted

the vessel with atomic engines, it was a simple matter to change the exhaust, reset the feed lines, and emplace the protective lead baffles. In an hour the two spacemen were ready to blast off.

"There she is," said Simms, standing back to survey their work. "As fast as anything in space, except the Solar Guard cruisers on hyperdrive."

"O.K.," said Wallace. "Let's get out of here!"

Minutes later, in a jet car speeding along the main highway toward the exposition grounds, Captain Strong, Mike Hawks, and the three cadets of the *Polaris* saw a rocket ship blast off. They watched it disappear into the dark space above.

"That might be they," said Strong to Hawks. "I'd better alert the patrol ship near the space station and tell them to pick them up."

"That couldn't be Wallace and Simms, sir," said Astro.

"How do you know, Astro?" asked Strong.

"That was an atomic-powered ship. The wagon Wallace and Simms have is a chemical job. I know the sound of her jets almost as well as I do the *Polaris*."

Hawks looked at Strong.

"You can depend on Astro's opinion, Mike," said Strong. "He was born with a rocket wrench in his hand and cut his teeth on a reactor valve."

They soon reached the outskirts of the exposition grounds and were forced to slow down as they wound their way through the darkened streets. In the amusement section, the last of the whirlaway rides and games of chance had closed down and only the occasional roar of a caged animal in the interplanetary zoo disturbed the night.

Hawks drove the low, sleek jet car around the fair, taking a short cut through the outdoor mercuryball field and pulled up in front of the *Polaris*.

The five spacemen turned toward the concession site across the promenade and stopped, aghast.

"Gone!" exclaimed Strong. "Astro, you made a mistake! It was their ship we saw blasting off. It's too late to warn the space-station patrol. Wallace and Simms could be anywhere in space now!"

"But, sir," protested Astro, "I'm certain that an atomic-powered ship blasted off. And their old freighter was a chemical burner!"

"Well," said Hawks resignedly, "they're not here."

"Come on," said Strong, getting out of the jet car. "Let's take a look around."

Strong and Hawks hurried across the street to the empty lot and the three cadets followed.

"Take it easy, Astro," said Tom, when he saw the big Venusian gripping his fists in frustration. "Anyone could make a mistake."

"That's just it," said Astro. "I'm not mistaken! Those jokers must have changed over from chemical fuel to reactant drive!"

"But why?" asked Roger. "That would cost more than they could make in

ten years of hauling passengers on joy rides!"

Astro whirled around and faced the two cadets. "I'm telling you the ship that blasted off from here was an atomic drive. I don't know any more than that, but I *do* know that!"

There was a sudden shout from Strong and the three boys hurried to the shack. The Solar Guard captain and the exposition commissioner were standing inside and playing the beam of an electric torch around the walls.

"Looks as though you were right about the atomic drive, Astro," said Strong. He flashed the light into one corner where a tangled jumble of lines lay on the floor. "That's feed-line gear for a chemical burner, and over there"—he played the light on some empty cartons—"is what's left of the crate's lead baffling it shipped in. They must have changed over to atomic drive recently."

Astro accepted the statement with a nod. It wasn't in the nature of the big cadet to boast. Now that the secret of the ship had been resolved, he turned, like the others, to the question of why?

"I think the best thing we can do," said Strong, "is to spread out and search the whole area. Might find something to indicate where they went." Commissioner Hawks nodded his head in agreement.

While Tom, Roger, and Astro searched outside, Strong and Hawks went through the drawers of the dusty desk standing in one corner.

"Nothing here but a record of the flights they made, bills for chemical fuel delivered, and the like," said Hawks at last. "They were losing money on the operation, too. Think they might have just gotten fed up and pulled out?"

Strong was rummaging around in one corner of the shack. "I'd go along with that, but for one thing, Mike," he said. "Take a look at this." He held up a small cloth bag. "There's dirt in the bottom of this bag. And there are about fifty more bags in that corner."

"Dirt!" exclaimed the commissioner.

"Yep," said Strong grimly. "So we found out who was dumping the dirt. But we still haven't found out why."

"Or where it came from," said Hawks.

Strong tossed the bag into the corner. "Well, I guess I'd better make a report to Commander Walters."

Hawks moved to the corner where the pile of chemical feed-line equipment lay on the floor. "Want to take a look at this stuff? Might be something important in it."

Strong thought a moment. "We can have the cadets do that. I want to get this report off to Walters right away, and issue an order to pick up Wallace and Simms."

"On what charges, Steve?" asked the commissioner. "I mean, what's wrong with what they've done?" The commissioner's question was based on one of the cardinal rules among all Solar Guard officers of authority. "Has the man committed any crime?"

Steve realized this and answered slowly. "They've changed over to reactor drive without a license or permission. That's a violation of the space code, section twenty-one, paragraph A. That is punishable by a suspension of space papers, and if the intention proved to be willful neglect of the code, a year on a penal asteroid. I think we can get them on that."

The captain stepped to the door and called the cadets.

"Find anything?" he asked, when they entered the shack.

"Nothing, sir," replied Tom. "Except more evidence that they changed over to atomic drive."

"That's enough" said Strong. "I'm going to send a report to Commander Walters. Is the teleceiver on the *Polaris* hooked up, Roger?"

"Yes, sir," replied Roger. "But Astro will have to start up the auxiliary generators to give you power."

"Very well, then," said Strong. "Corbett, you give Astro a hand on the power deck. And while we're gone, Manning, you go through that feed-line junk there in the corner and see if there's anything important in it!"

"Aye, aye, sir," replied Roger.

Strong and Hawks, followed by Tom and Astro, left the shack and hurried to the *Polaris*.

On the power deck, Tom and Astro made the necessary connections on the generator, and in a few minutes, as power surged through the ship, Strong flipped on the teleceiver.

"Attention! Attention! This is Captain Strong on the *Polaris* calling Commander Walters at Space Academy! Earth emergency circuit, priority B —"

In a few moments the Solar Guard officer's call had been picked up by a monitor station on Earth and relayed directly to Space Academy. Commander Walters was roused out of bed, and when he appeared on the teleceiver screen, Strong saw he was still in sleeping dress.

"Sorry to disturb you, sir," said Strong, "but something has come up here at the exposition that needs your immediate attention."

"That's quite all right, Steve," said the commander with a smile. "What is it? Manning get into more trouble?"

"No, sir," answered Strong grimly. "I wish it were as simple as that." He quickly related the details of the strange dirt cloud and his suspicions of Wallace and Simms. Walters' expression grew serious.

"I'll get out an emergency bulletin on them at once, Steve. Meantime, you have full authority to head an investigation. Use any service you need. I'll confirm my verbal order with official orders at once. Get on this thing, Steve. It sounds serious."

"I will, sir, and thanks!" said Strong.

"End transmission!"

"End transmission," returned Strong, flipping off the teleceiver and turning to the ship's intercom. "Attention, power deck! Corbett, you and Astro go back to the shack and give Roger a hand. I'm going to work with the commissioner here setting up search operations."

"Aye, aye, sir," replied Tom from the power deck.

The two cadets hurriedly closed the power units and left the ship.

"Did you hear what Captain Strong said, Astro?" asked Tom. "Search operations."

"I wonder what's up," the big Venusian remarked. "They don't set up search operations unless it's awfully serious!"

"Come on," urged Tom. "Maybe Roger's found something."

They entered the shack together and Tom called out, "Say, Roger, Captain Strong just spoke to Commander Walters at the Academy and—"

The curly-haired cadet stopped short. "Astro, look!"

"By the rings of Saturn!" exclaimed the big cadet.

The two cadets stood gaping at a huge hole in the middle of the room. The wooden floor was splintered around the edges of the opening and several pieces of the chemical feed-line equipment lay close to the edge, with trailing lines leading down into the hole. They heard a low moan and rushed up to the hole, flashing their lights down into it.

"Great galaxy!" yelled Tom. "Astro, look! It's a shaft! It must be a thousand feet deep!"

"And look!" bellowed Astro. "There's Roger! See him? He's hanging there! His foot's caught in that feed-line cable!"

The big cadet leaned over the hole and shouted, "Roger! Roger! Are you all right?"

There was no answer from the shaft. Nothing but the echo of Astro's voice.

CHAPTER 6

"Easy, Astro," said Strong, standing behind the big cadet. "Pull that line up slowly and gently."

"Yes, sir," gasped Astro. He didn't have to be told to pull the rope with caution. He knew only too well that the slightest jar or bump against the side of the shaft might dislodge Roger's unconscious body from the tangle of line, causing him to fall to the bottom of the shaft. How far down the shaft went, none of the anxious spacemen around the hole in the splintered floor knew. And they didn't want to use Roger's body to find out!

"I'll give you a hand, Astro," said Commissioner Hawks. He reached for the line, but the big cadet warned him away.

"That's all right, sir," he said. "He's almost up now."

Astro pulled gently, hand over hand, until Roger's limp body was a mere foot from the edge.

"Grab him, quick!" he panted.

Immediately Strong and Hawks were down on their knees at the edge of the hole. Each taking an arm, they pulled Roger out and laid him gently on the floor of the shack. They crouched over him and began a quick examination.

"How is he, sir?" asked Tom, hovering anxiously over the still form of his friend. "Will he be all right?"

Strong didn't answer for a moment, continuing his hurried, though careful check. Then he sat back on his heels and sighed in relief. "A few bruises but no broken bones, thank the universe. He's just suffering from shock. A day or so in sick bay and he'll be good as new."

"I'll take him over there right away, Steve," offered Hawks.

"Thanks, Mike," replied Strong. Then as he and the commissioner lifted the still form of the cadet and started to carry him out of the shack, he turned to Astro. "Blast over to the *Polaris* and call Solar Guard headquarters in Venusport. Tell them to send an emergency crew down here right away."

"Aye, aye, sir," snapped the big Venusian and dashed out of the shack.

Turning back to Hawks, Strong said, "Corbett and I will stay here and try to find out where that shaft leads."

"All right, Steve," nodded the commissioner. "Too bad we had to find out where that dirt came from the hard way."

Reaching the jet car, the two men placed Roger in the back seat, and Hawks slid in under the wheel to start the powerful jets. Just then Astro, racing back from the *Polaris*, pulled up breathlessly.

"Solar Guard crew is on the way, sir," he reported. He glanced anxiously into the back seat of the jet car.

"All right, Astro," said Strong gently, "take care of Roger." Strong gestured to the back seat and without a word Astro leaped in beside his friend. Hawks stepped on the accelerator and the car shot away in a roar of blasting jets.

Tom and Captain Strong watched the car disappear and then turned back to the shack. Each felt the same emotion, an unspoken determination to see that Wallace and Simms paid dearly for causing the accident.

Re-entering the shack, they began a careful examination of the shaft. Strong played his emergency light down the sides, but the beam penetrated only a short distance.

"We'll leave a note for the emergency crew," said Strong. "Our belt communicators might not work so far underground."

"You're going down, sir?" asked Tom.

Strong nodded. "If necessary. Tie that valve on the end of the rope Astro used and lower it into the shaft. If we can touch bottom with it, we'll climb down and see what Wallace and Simms were after."

"Yes, sir," said Tom. He took the length of rope, tied the heavy metal valve to the end, and began lowering it into the shaft. Strong continued to play the light down the shaft until the valve disappeared into the darkness.

"Rope's getting short, sir," warned Tom. "Only have about two hundred feet left."

Strong glanced at the remaining coils of line on the floor. "I'll get more from the *Polaris*, if we need it," he said. "How long was that line to begin with?"

"It's a regulation space line, sir," said Tom. "Astro took it out of the emergency locker. It's about twelve hundred feet."

By this time the line, hanging straight down the shaft, had become increasingly heavy. Suddenly it grew slack.

"I think I've hit bottom, sir," cried the cadet. "But I can't pull the valve back up again to make sure."

Strong grabbed the end of the line and helped the cadet pull it back up a short distance. Then they dropped the line again and felt a distinct slackening of weight.

"That's bottom all right," said Strong. "Take this end of the line, run it out of the window on your right, and back through the one on your left. Then make it fast."

"Yes, sir," said Tom. He jumped out of the window, trailing the rope after him, and reappeared almost immediately through the other window to tie a loop in the line. After checking the knot and testing the line by throwing his full weight against it, Strong stripped off his jacket and wrapped it about the line to prevent rope burns. Then, hooking the emergency light on his belt, he stepped off into the shaft. Tom watched his skipper lower himself until nothing but the light, a wavering pin point in the dark hole, could be seen. At

last the light stopped moving and Tom knew Strong had reached the bottom.

"Hallooooooo!" The captain's voice echoed faintly up the dark shaft. "The belt communicators don't work!" he yelled. "Come on down!"

"Be right with you, sir!" yelled Tom. He scratched a message on the wooden floor of the shack for the emergency crew. Then he stripped off his jacket, wrapped it around the rope, secured the light to his belt, and stepped off into the darkness.

"Captain Strong!"

Slowly, his hands tight around the rope through his jacket, Tom slipped down the deep shaft. He kept his eyes averted from the black hole beneath him, looking instead at the sides of the shaft. Once, when he thought he had gone about seven hundred feet, he saw that he was passing through a stratum of thick clay and could see the preserved bones of long-dead mammals, protruding from the side of the shaft.

Finally Tom's feet touched solid ground and he released the rope. It was

cold in the bottom of the shaft and he hastily put his jacket back on.

"Captain Strong?" he called. There was no answer. Tom flashed the light around and saw a low, narrow tunnel leading off to his left.

He walked slowly, and the newly dug sides of the tunnel seemed to close in on him menacingly. It was quiet. Not the blank silence of space that Tom was used to, but the deathlike stillness of a tomb. It sent chills up and down his spine. Finally he stepped around a sharp bend and stopped abruptly.

The Solar Guard officer was stooping over, his light resting on the ground, reading something he held in his hand. He looked up at Tom and jerked his thumb back over his shoulder. Tom flashed his light in that direction.

"By the rings of Saturn!" exclaimed Tom. There in front of him, ripped open like a can of sardines, was the gleaming metal skin of the time capsule! The dirt floor of the tunnel around Strong and beside the capsule was littered with audio spools, sound disks, micropapers, and stereo slides.

Tom kneeled down beside his skipper and stammered, "What—what does it mean, sir?"

"It means," answered Strong slowly, "that we're dealing with two of the cleverest men in the universe! If they've stolen what I think they have, the entire Solar Guard, Solar Alliance, and just about everyone in the universe is at their mercy!"

* * * * *

"How do you feel, Roger?" asked Astro.

The blond-haired cadet sat up in bed, dangled his feet over the side, and rubbed his neck. He groaned as he moved. "I don't think I'm going to dance much this month, if that answers your question. I feel like every bone in my body was broken!"

"They very nearly were, Cadet Manning," said the medical officer, standing near by.

"What happened, Manning?" asked Commissioner Hawks.

"I really don't know, sir," replied Roger. "I was moving the junk out of the corner of the shack so I could examine it. I was piling it up in the middle of the floor when—wham—something gave way and I took a header into nowhere!" He looked at Astro. "Now suppose *you* tell me what happened!"

Astro told Roger about finding him dangling at the end of the tangled feed lines. Then he said, "Tom and Captain Strong are out there now, waiting for one of the Solar Guard emergency crews."

"Well, what are we hanging around here for?" asked Roger, and hopped off the bed. He groaned, staggered, and then straightened up. "Nothing to worry about," he said, as Astro rushed to his side. "I'm as good as new!"

"What do you say, Doctor?" asked Hawks.

The doctor hesitated a moment and then smiled. "Well, Commissioner, Cadet Manning has several strained muscles in his back, but the best treatment for that is exercise."

Hawks nodded and signed a release slip which the doctor gave him. Astro helped Roger put on his space boots, and five minutes later they were speeding back to the exposition grounds in the commissioner's jet car. As they sped through the streets, the two cadets speculated on what they would find at the bottom of the shaft. Arriving at the shack, they were immediately challenged by an enlisted Solar Guardsman.

"Halt!" said the guard gruffly. "Advance slowly for recognition!"

With Commissioner Hawks leading the way, Roger and Astro walked up to the guard.

"Say," said Roger, nudging Astro, "look at what's going on around here!"

"Yeah," agreed Astro, wide-eyed. "Something must be plenty hot to have guards posted!"

Hawks was immediately recognized by the guard, but he still stubbornly demanded proof of their identity. Hawks, Roger, and Astro hauled out their Solar Guard identification disks, small metal plates with their images engraved in the shiny metal. On the other side was a detailed description of the bearer.

"Very well, sir," said the guard and let them pass.

In the pale light of dawn, feverish activity could be seen taking place around the shack. Two huge jet vans, filled with every possible piece of emergency equipment, were parked near by. The *Polaris* had been taken over as a temporary headquarters and the area was crowded with scarlet-clad enlisted men. Astro could hear the hum of generators on the *Polaris* and immediately felt concern for his power deck.

Proceeding to the shack they were again challenged by a guard and again had to produce their identification disks before entering. Once inside, they were amazed at the transformation. An aluminum tripod, ten feet tall, had been erected over the hole in the floor, and several steel cables, connected to a motor-driven steel drum, were looped over the apex of the tripod, one hanging straight down into the shaft. A thick plastic hose hung over the edge of the shaft, jerking spasmodically as air was pumped into the dark hole.

"By the craters of Luna," cried Hawks, "what's going on here?"

A young lieutenant stepped up to the commissioner and saluted sharply. "Lieutenant Silvers, sir. Second-in-command to Captain Allison of the emergency crew."

Hawks returned the salute and Lieutenant Silvers continued.

"Captain Strong, Cadet Corbett, and Captain Allison are at the bottom of the shaft, sir. The cage will be up in a moment and you may go down if you care to."

"Thank you, Lieutenant," said Hawks.

"Congratulations, Cadet Manning," said Silvers. "I understand you had a close call in the shaft."

"I did, sir," said Roger. "It was *very* close."

A light suddenly flashed on and the four spacemen turned to watch a large wire cage rise out of the shaft. It was built in three sections, each seven feet high. A ladder on one side of the cage gave easy access to the higher and lower levels. Astro climbed to the top section while Hawks took the lower. Roger stepped into the center section to avoid a climb. An enlisted man secured the gates and turned on the motor. The cage dropped through the shaft with sickening speed.

A minute later it began to brake slowly, finally coming to a dead stop at the bottom of the shaft. They were met by a Solar Guardsman who directed them into the tunnel, now illuminated by a row of flowing, self-powered emergency lights. Silently, but with rising excitement, the two cadets followed Hawks through the brightly lighted shaft, a thousand feet below the surface of the planet.

Turning the last corner in the tunnel they came upon Strong, Tom, and Captain Allison huddled near the torn side of the time capsule. They could hear Strong talking to Tom.

"There is a vault on every spaceship in the Solar Alliance, Tom," Strong was explaining. "The vault is locked before blast-off and opened after landing by a light-key operated only by a trusted spaceport security officer. This key flashes a series of light vibrations, in sequence, into the electromagnetic lock on the vault. It's really nothing more than a highly developed flashlight except that it flashes multiple combinations of lights, each containing certain electronic vibrations. The electromagnetic lock can only be opened with the proper combinations of colors and vibrations flashed by the light-key. Of course each ship has a different code of colors and vibrations, but the code itself wouldn't be hard to crack. The big thing would be to have an adjustable light-key, so that if one combination of colors and light vibrations do not work, you can try another. In that way you could open any energy lock on any vault in the system."

"And Wallace and Simms—" Tom hesitated.

"Yes, Corbett," said Strong grimly. "Wallace and Simms stole an information sound spool from the capsule. On that spool was a detailed description of the energy lock and the adjustable light-key. There were only seven keys in the system up to now. If we don't catch Wallace and Simms, there'll be eight."

"Great galaxy," Commissioner Hawks broke in. "This will ruin the exposition! The Alliance will close it after—"

Strong waved a calming hand at Hawks. "I've already spoken to Commander Walters at Space Academy, Mike," he said. "He wants this to remain a secret. No one knows about it besides us, and no one will. I'm taking your oaths, your spaceman's word, that it will remain a secret. There's no use

in starting a panic. You'll keep the exposition going as if nothing had happened."

"But what can the Solar Guard do, sir?" asked Tom.

"We'll start the greatest search the system has ever seen," replied Strong calmly. "But the order for their arrest will be issued for some other violation." The Solar Guard officer suddenly noticed Roger for the first time.

"Oh, Manning!" he said, smiling. "Good to see you. How do you feel?"

"O.K., sir," replied Roger. "But I'd feel a lot better if those space crawlers didn't have the combination to every safe and vault in the universe!"

Strong nodded. "This is one of the cleverest crimes in history. And in searching for Wallace and Simms, we'll have to be twice as smart as they are!"

"Yes, sir," said Tom. "First we have to figure out what they will do, and then figure out how we're going to beat them!"

"That's right, Tom," nodded Strong. "And by the stars, if we don't beat them, the only safe place left for the credits and securities of the people in the system will be behind rows of paralo-ray guns!"

CHAPTER 7

"Attention! Attention! This is Captain Maitland of the rocket cruiser *Orion* reporting to Captain Strong at Space Academy. Come in, Strong!"

High in the Tower of Galileo overlooking Space Academy, the Solar Guard officer, his face showing the strain of the last three-weeks' futile search for Wallace and Simms, flipped on the teleceiver and replied, "Strong here. Go ahead, Maitland."

Tom, Astro, Roger, and Commander Walters stood behind Strong and waited tensely for the last report to come in. Maitland's voice crackled through millions of miles of space.

"We've searched space quadrants A through D, sections twenty-one through one hundred thirty-eight. Constant six-way radar sweep of the area. No sign of Wallace and Simms."

Strong sighed deeply and replied, "All right, Maitland. Thank you. You may return to base. End transmission."

"End transmission!" signaled Maitland, and the crackling static died out in the quiet room.

Walters stepped forward and placed his hand on Strong's shoulder. "Don't let it get you down, Steve," he said. "I saw the zone search you set up for those two. No one could have done more."

"Maybe not, sir," said Strong, getting up, "but we didn't catch them."

"Not yet," frowned the commander grimly, "but we will! Well, there's nothing else to do here. That was the last patrol ship to report, so you might as well close up shop."

He turned to the cadets, who had been reassigned from the exposition as aides to Captain Strong in his search for Wallace and Simms. "You three come with us," said Walters. "I've got an idea and I want all of you to hear it."

Strong and the boys followed the commander out of the Academy communications center down to his luxuriously furnished office.

"Perhaps," said Walters, settling back in his chair and lighting an enormous pipe filled with red Venusian tobacco, "perhaps we have been hunting the fox with the wrong kind of dogs."

"Assuming that Wallace and Simms are the foxes in this case and the Solar Guard the hunting dogs, what would you suggest, sir?" asked Strong.

Walters puffed several times and eyed Strong. "I was going to suggest that you and the cadets become merchant spacemen for a while and take a look at some of the uglier places of the Solar Alliance. Go right into the foxes' den

dressed as foxes!"

"Ummmmh," mused Strong. "It is an idea."

"Give it a try, anyway," urged Walters. "Take that old freighter we confiscated from the Titan smugglers, the *Dog Star*. Wander around for a few weeks and see what you can pick up. We have the advantage, since only a few of us know *why* we're looking for Wallace and Simms. It might make finding them a little easier."

Strong looked at the cadets and then back at the commander. "It might just work, at that, sir," he said at last.

"Work your way around to Venusport," said Walters. "Let it be known that you four are—well, willing to do just about anything for a credit."

Strong and the cadets smiled. "All right, sir," said the young captain. "We'll start right away."

"No!" replied the commander firmly. "You'll start in the morning. Right now, I'm ordering you to hit the sack and get some rest. You're not going to catch those two with speed. You'll need brains and cleverness."

"Very well, sir," said Strong as he stood up. "And I want to thank you for giving us this assignment."

"No question about it," answered the commander. "If you have a tough job to do, you put your best team to work on it, and the job will get done!"

It was difficult for the three cadets, who had been standing to one side listening, to suppress a smile. They saluted and followed Strong from the room. He left them at the slidestairs with orders to be ready to blast off at 0800 hours.

Tom was silent as he climbed into his bed in the *Polaris* unit's quarters on the forty-second floor. Roger and Astro fell asleep almost as soon as their heads touched their air-foam pillows, but the curly-haired cadet lay with arms under his head, staring up at the ceiling. He felt uneasy about the task that faced them. He wasn't afraid for himself, or Roger, or Astro. Something he couldn't put his finger on bothered the young spaceman.

He reviewed Wallace and Simms' entire operation. He remembered the two men had struck him as not being too bright. Their success in stealing the secret of the adjustable light-key, and their methods, plus their complete disappearance, just didn't add up. He made up his mind to speak to Captain Strong about it in the morning. As soon as the matter was settled in his mind, he was asleep.

* * * * *

At exactly 0800 hours the three cadets and Captain Strong appeared at the Academy spaceport dressed in the severe black tight-fitting trousers and jacket

of merchant spacemen. Quietly eluding all friends and acquaintances, they entered the confiscated freighter that had been prepared for space flight during the night and began acquainting themselves with the ship's equipment.

When Astro reported the power deck ready and Roger cleared their course, Tom called the traffic-control tower for blast-off clearance.

"Take it easy on the first hop," said Strong. "There's no hurry and I want to be sure we get this crate off in one piece." Smiling confidently at the control-deck cadet, he turned away to his quarters. He was aware of the effect that being left alone had on the cadets. He had learned early in his associations with Tom, Roger, and Astro that they bore responsibility well, and a challenge to do a good job would assure him the job would be done efficiently.

"Stand by to raise ship!" Tom's voice crackled confidently over the ship's intercom.

Strong sat on an acceleration cushion and strapped himself in. He heard Tom's voice counting off the seconds for blast-off.

"… Five—four—three—two—one—*zero*."

As the rockets burst into a loud roar, the freighter lurched from the ground and thundered up into the atmosphere, pushing Strong deep into his

acceleration cushion. Minutes later, he felt the freedom of free-fall space. In a strange ship, the *Polaris* crew had begun a strange mission.

During the flight to Luna City, their first stop on the tour of the hangouts of outlawed spacemen across the solar system, Strong briefed his cadets on a plan of action.

"I think it'll be better if we split up into two teams. You work with me, Corbett, and Astro will team up with Manning. We'll operate like simple tramp spacers. Our space papers have new last names, but the same first names, so there won't be any slip-ups when we speak to each other. From now on, if we happen to meet, you'll all call me Steve and I'll call you by your first names. Is that clear?"

The cadets nodded.

"All right," continued Strong. "Now, when we arrive in a city, Tom and I will go to one section, while you two go to another. Visit the toughest-looking places you can find. Talk, talk to anyone that wants to talk. Buy people drinks. Let it slip that you're not exactly on the right side of the space code. Then, if you feel you have a sympathetic listener, mention Wallace and Simms. Say you have heard of the trouble they're in. Say you know them, that you're old friends, and hint that you have something that they need very badly. Just keep talking and pulling for information. Got that?"

Again the three cadets nodded silently.

"Wear your paralo-ray guns at all times and keep your belt communicators hidden beneath your jackets," Strong warned. "If one team gets into a tight spot, call the other right away. But don't call unless it's absolutely necessary!" Strong paused and glanced at the tele-scanner. "We're getting close to Luna City. We'll touch down at the municipal spaceport and go through the regular routine of customs search just to establish ourselves as tramp spacemen."

"How long will we stay in each city, sir?" asked Tom.

"Watch that 'sir,' Tom," snapped Strong. "Might as well begin to forget it now."

"O.K., Steve," replied Tom sheepishly.

"To answer your question, we'll stay in each city only as long as there might be something to be gained by staying. We'll live aboard the *Dog Star*. But stay away from the ship as much as possible. If anyone questions you, tell them you're looking for cargo. But in case they take you up on it and offer you a cargo haul, you always want more money for the job."

Roger grinned. "That could be fun."

"Be clever, but be tough. Some of the people you'll run into are the most ruthless men in the universe. They are just the ones that might know something about Wallace and Simms."

Strong cautioned them against drinking rocket juice, suggesting they drink Martian water instead. The briefing was interrupted by the automatic warning beep from the tele-scanner informing them that they had passed the outer beacon on the approach to the municipal spaceport on the Moon. The four

spacemen immediately began the routine task of landing their ship safely on the satellite colony.

An hour later, as gray-clad customs men finished searching the empty ship, Roger waited for final clearance at the air lock of the freighter. When the last of the men were leaving the ship, Roger stopped two of them.

"Say, ground hogs," drawled Roger, "where's the best place to get something to eat?"

The two men stopped and turned to face the cadet, their eyes cold and unfriendly. "Why don't you space drift blast out of here?" asked one of them.

"Yeah," agreed the other, "your kind aren't welcome in Luna City."

Roger shrugged his shoulders and turned away. The two customs officers continued down the gangway. "Those young punks," muttered one, "they get themselves a berth on a crummy freighter and think they're real hot space aces when they're nothing but wet fire-crackers!"

Strong had appeared at Roger's side and heard the last remark.

"What was that about, Roger?" he asked, nodding toward the disappearing customs men.

Roger smiled. "Just seeing if I could get by."

"They certainly gave us a good going over," said Strong grimly. "I think our disguise is perfect. Those fellows don't miss much."

"I heard them talking, Steve," said Roger. "They recognized the ship and know its reputation for smuggling."

"Yes," agreed Strong. "And your remark will make them sure to watch every move we make. But that's just what we want. News of that sort has a way of getting around. And anyone interested in a ship with a reputation for smuggling is someone we're interested in."

Astro walked up, and with a brief nod Roger followed the big cadet down the gangway. As they walked across the concrete surface of the spaceport, Tom appeared at Strong's elbow.

"I'm ready to go, Steve," he said. "The ship's secure."

"Very well, Tom," said Strong. "But from now on, keep your eyes and ears open. It only takes one slip to make a dead spaceman!"

CHAPTER 8

"See that fellow over there, Steve?" whispered Tom. "The one with the scar on his face?"

"Yeah," replied the disguised Solar Guard officer. "I've been watching him too. And I think he's had his eye on us."

Tom and Captain Strong were sitting in a small restaurant near the spaceport, drinking Martian water and discussing the shadowy characters that lounged around the stuffy little room.

"I'll walk over to the bar," said Strong. "Maybe he doesn't want to talk to two of us together. You go over and see if you can strike up a conversation."

"Good idea, sir—uh—Steve," said Tom.

Strong got up and with an exaggerated swagger walked to the small bar. From the mirror in back of the bar, he could see Tom rise and saunter over to the man who sat on the opposite side of the room.

For three days, Roger, Astro, Tom, and Strong had wandered through the bars, restaurants, and cheap hotels of Spaceman's Row in Luna City searching for information that would lead them to Wallace and Simms. Each night they returned to the freighter to exchange, sift, and analyze the bits of information gathered, but for three nights they had come up with a total of nothing. Finally, Strong had decided that this would be the last night they would spend in Luna City. It was after making this decision that he and Tom spotted the scar-faced man sitting alone in one corner.

The scar-faced man obviously wanted something from Tom

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Strong saw Tom stop at the table, say a few words, then sit down and order drinks. Tom and the scar-faced man continued their conversation, now leaning across the table talking in whispers, stopping only long enough for the waiter to serve the drinks. Strong noticed that the scar-faced man paid for them and smiled to himself. That was a step in the right direction. He obviously wanted something from Tom.

Suddenly the young cadet looked up and motioned for him to come over to the table. Strong merely lounged against the bar and nodded carelessly. Taking his time, he finished his glass of Martian water, then swaggered across the crowded room to the table.

Tom glanced up casually and then turned to his companion at the table.

"This is my skipper," he said. "Name's Steve. You gotta job to do, Steve'll do it. Anything, anywhere, any time," he paused, and then added with a smirk, "for a *price*!"

The scar-faced man looked up at Steve. His eyes traced a pattern over the tall man, noting the broad shoulders, the piercing eyes, and the bulge of a paralo-ray gun in his jacket. He pushed a chair back with a foot and managed a smile in spite of the scar that twisted his features into an ugly mask. "Sit down, Steve. My name's Pete."

Strong accepted the invitation silently. At close range, he saw the man was more disfigured than he had noticed from the bar. The scar on his face reached from his left ear across his cheek and down to his neck. Pete saw him looking at the scar and smiled again. "Funny thing about scars. I got one, but I don't have to look at it. I just stay away from mirrors and I remember myself as I was before I got it. So look all you want. You're the one that's got to suffer for it."

Ignoring the man's bitter tone of voice, Strong growled, "I'm not interested in what you look like. You got something to haul; we got a ship to haul it. Name your cargo and destination, and we'll name a price."

"Ain't as simple as that," said Pete craftily. "I gotta know more about you before we talk business."

"What for instance?" asked Strong.

"For instance, who do you know on Spaceman's Row that can give you a reference?"

Tom spoke up quickly without looking at Strong. "Suppose I told you I helped pull a job a couple of weeks ago that was worth a hundred thousand credits?" He settled back, casually glancing at Strong and receiving an imperceptible nod in return.

"A hundred thousand, eh?" said Pete with interest. "Not bad, not bad. What kind of a job was it?"

"Me and two other guys held up the Credit Exchange at the Solar Exposition at Venusport."

"Oh?" Pete was becoming extremely curious. "You in on the job too, Steve?"

Before Strong could answer, Tom spoke quickly. "No, I bought a half interest in Steve's ship with my share of the take." Strong could hardly keep from smiling, so easily was the young cadet's tale growing.

"Then who *was* in on this job with you?" persisted the scar-faced man. "You look pretty young to pull a big job like that."

Tom glanced around the room and then leaned over the table before whispering, "Gus Wallace and Luther Simms."

"What?" exclaimed Pete. "Gus Wallace? A guy about six feet tall and two hundred pounds? Has a heavy rough voice?"

"That's the one," said Tom.

Pete's arm shot across the table like a snake and he grabbed Tom by the

jacket. "Where is he?" he asked through clenched teeth.

No sooner had Pete touched Tom than Strong had his paralo-ray gun leveled at the scar-faced man. "Take your hands off him," he said coldly, "or I'll freeze you right where you are!"

Pete relaxed his grip and settled back into his chair. He glared at Tom and then at Strong.

"All right," snapped Strong. "Now *you* talk!"

Pete didn't say anything. Strong inched closer to the scar-faced man menacingly. "I said *talk*! Why do you want to know where Gus Wallace is? Maybe you're Solar Guard, eh? Trying to play a little trick on us. How do I know you haven't got a squad of MP's outside waiting to pick us up?"

Pete began to shift nervously. "You got me all wrong, Steve. I ain't Solar Guard."

"Why do you want to know where Gus Wallace is, then?" Strong persisted.

Pete hesitated and had to be prodded with the paralo-ray gun again by Strong. "Talk!" hissed Strong.

"You see this scar?" asked Pete. "Well, two years ago, on Spaceman's Row in Marsopolis, Gus slashed me in a fight. I swore I'd do the same for him when I caught him, but he's been running from me ever since."

"Marsopolis, eh?" asked Strong. "Two years ago?"

"Yeah."

"I think you're lying! You're Solar Guard."

"Honest, Steve," whined Pete. "That's the only reason I want him. Ask anybody. It happened in the Spacelanes Bar on New Denver Avenue. I bet there are five guys here right now who heard about it!"

Strong got up, pushing the gun back in his belt.

"Come on, Tom. I don't like the way your friend Pete answers questions."

"Wait a minute!" Pete rose from his chair, protesting.

Strong whirled around and faced the scar-faced man. "If I were you, Pete," he muttered, "I'd sit still and not ask any more questions. It isn't healthy!"

Without another word Strong walked out of the dingy restaurant. Tom shrugged his shoulders in a helpless gesture and followed, leaving Pete alone and worried.

Outside in the street, his face bathed in the garish light of the vapor street lights, Strong stopped to wipe his forehead.

"Whew!" he gasped. "We certainly bulled our way through that one!"

"I felt the same way," said Tom. "But at least we have something to go on. You think he was suspicious?"

"No, Tom. He was so scared when I accused him of being tied up with the Solar Guard it threw him completely off stride."

"Well? Where do we go from here?" asked Tom.

"Back to the ship," replied Strong. "And as soon as Astro and Roger show up, we blast off for Marsopolis. Our next target is a joint called the Spacelanes!"

* * * * *

Against a backdrop of shimmering stars that studded the velvet black emptiness of space, the freighter *Dog Star* rocketed toward the red planet of Mars carrying the four spacemen on the next step of their search. Relaxing from the three arduous days on the Moon and able to be themselves once more, Strong and the three cadets rested and discussed every detail of their stay in Luna City. It was finally decided that their only real chance of tracing Wallace and Simms lay in the Spacelanes Bar. As they approached Mars, Strong outlined their next move.

"We'll do the same thing as we did in Luna City," he said. "Split up. Only this time, we'll all go to the same place, the Spacelanes. Tom and I will go in first and do most of the nosing around. Astro and Roger will drift in later and hang around, just in case there's trouble."

The three cadets nodded their understanding, and when Strong turned to the teleceiver to make his report to Commander Walters at Space Academy, they took their stations for touchdown at Marsopolis.

His face impassive on the teleceiver screen, Commander Walters listened to Strong's report, and when the Solar Guard officer finished, he grunted his satisfaction.

"Do you have any news on Wallace and Simms, sir?" asked Strong.

"Yes, but my news isn't as good as yours," frowned Walters. "They've already made use of their knowledge of the light-key. They held up a Solar Guard transport en route to Titan and emptied her armory. They took a couple of three-inch atomic blasters and a dozen paralo-ray guns and rifles. Opened the energy lock with their adjustable light-key as easily as if it had been a paper bag. It looks as though they're setting themselves up for a long siege."

"Do you have any idea where they might be hiding, sir?"

"Somewhere in the asteroid belt, I believe," replied the commander. "They headed for the belt after they held up the transport."

"Well, we'll do what we can from our end, sir," said Strong. "Since Mars is closer to the asteroid belt than any other planet, they might be using Marsopolis as a hangout. Or someone might have seen them recently."

"Use whatever plan you think best, Steve. I'm counting on you."

"Thank you, sir."

"Spaceman's luck! End transmission."

"End transmission," replied Strong and flipped off the screen.

Fifteen minutes later, the *Dog Star* settled on a blast-scorched ramp at the Marsopolis spaceport, and after a hasty review of their plans, the four spacemen left the ship. Strong had a brief argument with a customs officer over a personal search for small arms. They were forced to leave their paralo-

ray guns on the ship. Disgruntled, as far as the customs agents were concerned, Strong was actually pleased with the success of their disguise as merchant spacemen.

Tom and Strong found the Spacelanes Bar in the roughest and darkest section of Marsopolis. It was large and almost empty. But Tom noted that it was just like many other such places he had been in in Luna City. The walls were scarred and dirty, the floor littered, and the tables and chairs looking as if they had been used in a hundred fights. Behind a bar that ran the length of one wall, a heavy-set man with beady black eyes watched their approach.

"What's your pleasure, spacemen?" asked the bartender in a gruff voice.

Strong hesitated a moment and decided to play all his cards at one turn. "We'll have a thousand credits worth of information."

The barman's eyes narrowed into black slits. "What kind of information would bring that kind of a price?" he asked.

"Information about a man," said Strong.

"What man?" asked the barman. He dropped his hand out of sight behind the bar. Tom's eye caught the move and he wished the customs men hadn't taken away their paralo-ray guns.

Just at that moment he heard Roger's unmistakable laugh and turned to see the blond cadet, followed by Astro, enter, cross the room, and slap the bar for service.

"Let me take care of these two," muttered the bartender and walked down to the end of the bar. Facing Roger and Astro, he snarled, "What'll it be?"

"Coupla bottles of Martian water," drawled Roger.

"Get out of here," roared the bartender. "We don't sell kids' drinks in here."

"Two bottles of Martian water!" growled Astro and leaned over the bar threateningly. Strong and Tom watched the performance with amused eyes. Without a word, the barman opened the bottles of Martian water and gave them to Roger and Astro. He turned back to Strong.

"These young rocketheads think they're so blasted tough," he sneered, "and then drink kids' soda pop."

Strong looked at Roger and Astro. "That fellow on the right," indicating Astro's size, "looks like he could be a little more than a child, if he got mad."

The barman snorted and leaned over the bar. "What about that thousand credits?" he asked.

"What about it?" countered Strong.

"That's a lot of money just for information," said the barman.

"It's my money," replied Strong coolly, "and my business!"

"What kind of information you interested in," asked the bartender.

"I told you, information about a man," said Strong. "Gus Wallace. Happen to know him?" Strong pulled a roll of crisp credit notes out of his jacket pocket. The barman looked at them greedily.

"Maybe. What'cha want with him?" he asked.

"He knifed a friend of ours in here two years ago."

"Yeah?" drawled the barman. "Who?"

"Pete," answered Strong, suddenly realizing he didn't know the scar-faced man's last name.

"Pete? Pete who?" asked the barman craftily.

"What are you trying to do?" snapped Tom suddenly. "Play space lawyer? You know Pete was knifed in here by Gus Wallace two years ago! Carved up good!" He made a slashing gesture from his ear to his throat, indicating the scar on Pete's face.

"So you want Wallace, eh?" mused the bartender.

"We want him a thousand credits' worth," said Strong.

"You didn't tell me for what, yet."

"None of your space-blasting business," roared Strong. "You want the thousand or not?"

The bartender couldn't keep his eyes off the crisp roll of credit notes Strong rippled under his nose and hesitated. "Well, to tell you the truth, I ain't seen him for a long time."

"Then do you know anyone who has?" asked Strong.

"Hard to tell," said the bartender huskily. "But I do know the guy who would know if anyone does."

"Who?" asked Tom.

"On Venusport's Spaceman's Row. There's a joint called the Cafe Cosmos. Go there and ask for a little guy named Shinny. Nicholas Shinny. If anyone knows about Wallace, he'll know."

Tom's heart almost stopped. Nicholas Shinny was a retired spaceman who had taken part in his last adventure to Alpha Centauri, and was a good friend of Strong's and the *Polaris* unit. Shinny had always operated on the edge of the space code. Nothing illegal, but as Shinny himself put it, 'just bending the code a little, not breaking it.'

Tom spoke up. "That's only worth a hundred credits," he said.

"Whaddya mean!" snapped the barman.

"How would Nick Shinny know Gus Wallace?" asked Strong.

"They prospected the asteroids together years ago."

Strong dropped a hundred-credit note on the bar and turned away without another word. Tom followed, and as they passed Roger and Astro, a knowing look passed between them, and Tom gestured for them to follow.

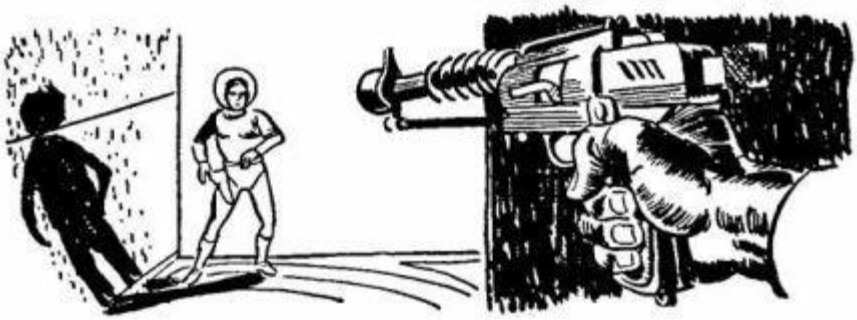
Having heard the conversation, Astro and Roger walked over to the bartender who was folding the credit note before putting it in his pocket.

"You sell your information pretty cheap, spaceman," snarled Roger. "Suppose those two were Solar Guardsmen in disguise?"

The bartender paused, then shook his head. "Couldn't be!" he said.

"Why not?" asked Roger.

"Because the Solar Guard has a guy salted away that knows exactly where Wallace is."



CHAPTER 9

"That's the story, sir," said Strong to Commander Walters, after the Solar Guard captain had related the information he had wormed out of the bartender at the Spacelanes Bar and the news Roger and Astro had brought.

"All right, Steve," nodded the commander. "I'll have the man picked up right away and psychographed. Meantime, you go on to Venus and see Nicholas Shinny."

"Very well, sir," said Strong. "End transmission!"

"End transmission," acknowledged Walters. Strong flipped the switch and the teleceiver screen darkened.

Fifteen minutes later, the *Dog Star* blasted off from Mars, heading for Venus.

During the trip back to the young planet that was rapidly growing into a major industrial center rivaling Earth, Strong received a report from Space Academy that the bartender had been picked up. His name was Joseph Price, and after questioning him under truth serum, Solar Guard security officers found the man's mind to be so filled with criminal plots and counter-plots, it would take several weeks for the psychograph analyst to learn the name of the man he claimed would know the whereabouts of Wallace. This was disappointing news for Strong, especially since the report included news of a second, third, and fourth strike by Wallace and Simms on spaceships near the asteroid belt.

Reaching the starting place of their adventure, Venusport and the Solar Exposition, Strong and the three cadets went immediately to a small suburban section of the great city and the home of Nicholas Shinny.

Shinny lived comfortably in a small house made of Titan crystal, enjoying himself during the day catching Venusian fatfish and watching the stereos at night. Once an enlisted spaceman, he had been retired with full pension and was living in ease and comfort. When Strong and the three cadets arrived at the elderly spaceman's house, they found him busy teaching a young Venusian wolfhound puppy how to retrieve.

"Well, blast my jets!" cried the old man. "If it ain't Tommy, Roger, and the big fella, Astro! And Captain Strong!"

"Hello, Nick!" said Strong with a smile. "You're a sight for space-blind eyes!"

"Heh-heh-heh," cackled Shinny, his merry eyes twinkling against his deep space tan. "It's mighty good to see you boys. Come on in the house. I got a mess of fatfish just pulled out of the stream and some of the most delicious biscuits you ever had in your life!"

"Well, thanks, Nick," hesitated the captain. "But we're in—"

"Can't be in too much of a hurry to eat," snapped the old man with a grin. "Anything you got to say is better said when you got a bellyful of Molly's cookin'."

"Molly!" cried Tom. "But, Mr. Shinny—"

"When—" gulped Astro, "when did you—"

"Hey! Hold on!" cried the old spaceman. "Just damp your tubes there, youngsters! You're way off course. Molly ain't nothing but an electronic cook I got installed in the kitchen. She cooks better'n any space-brained woman and she never opens her mouth to give me any sass!"

The four spacemen laughed at Shinny's obvious indignation.

"Now come on!" he growled. "Let's eat. I'm hungry!"

Refusing to allow them to get near Molly, Shinny began pushing food into slots, compartments, turning on switches and punching buttons. In the cozy living room, Strong relaxed while the three cadets played with the Venusian wolfhound. Finally Shinny announced dinner and they fell to with gusto. There wasn't much talk during the course of the meal. Strong and the boys felt that Shinny would let them know when he was ready.

Finally the meal was over. Shinny sprawled in his chair, lit his pipe, then looked at his guests, his eyes twinkling. "All right, me friends, I think you've held back long enough. Let's have it."

Strong immediately told the old spaceman the entire story, from Wallace and Simms' false concession at the exposition to the present.

"You see, Nick," he concluded, "with an adjustable light-key enabling them to open any lock in the solar system, nothing is safe. Personally, I think it's only because they haven't a larger or faster ship and aren't better armed that they haven't tried more daring piracy. They'll reach that point soon, though. They've already robbed four ships for arms alone."

"I'll do anything I can to help you, Captain," said Shinny. "What is it you want to know?"

"We suspect that Wallace has a secret hide-out in the asteroid belt," said Strong. "Since you once prospected the asteroids with him I thought you might know where the hide-out is."

Shinny grew reflective and knocked the ashes out of his pipe before he answered. "That was a long time ago, Captain. More'n ten years. And Gus Wallace was a real square spaceman then. He didn't turn bad until after we split up and he met that other feller."

"What other fellow?" asked Strong.

Skinny paused. There was a hard glint in his eyes. "Bull Coxine!" He spat the name out as though it had left a bad taste in his mouth.

"Coxine!" exclaimed Strong.

"You heard me," snorted Shinny. "Bull Coxine and Gus Wallace got together after me and Wallace lost our stake hunting for uranium pitchblende in the asteroids and split up. Next thing I heard, him and Coxine was mixed

up in that business up on Ganymede when the Credit Exchange was held up."

Strong's face had turned the color of chalk. "Coxine!" he repeated under his breath.

Noticing Strong's reaction to Shinny's statement, Tom asked, "Who is Coxine, Captain Strong?"

Strong was silent and Shinny turned to the cadets.

"When your skipper here was a young feller just starting out in the Solar Guard," the old man explained, "he was on a routine flight out to Titan and there was a mutiny. Coxine was the ringleader. The captain joined up with Coxine after they had put his skipper in the brig. When he had Coxine's confidence, he regained control of the ship and sent Coxine and the others to a prison asteroid. Coxine has hated the captain ever since and swore to get him."

"But how did he pull the holdup on Ganymede, then?" asked Roger.

"Coxine escaped from the prison asteroid in a jet boat, disguised as a guard," continued Shinny. "Only man ever to escape. He drifted around in the belt for a while and was picked up by a freighter going to Ganymede. The freighter had been out rocket-hopping among the asteroids, collecting the prospectors' small supplies of uranium and taking the stuff back to Ganymede for refining. Wallace happened to be dead-heading on the freighter. When they got to Ganymede, and Coxine saw all the money lying around at the Credit Exchange to pay off the prospectors, he convinced Wallace to go in with him and they robbed the Exchange. Coxine was caught red-handed, but Wallace got away. In fact, the Solar Guard didn't know Wallace had anything to do with it. So Coxine was taken back to the prison asteroid, and Wallace has been driftin' around the system ever since."

"But, Mr. Shinny," asked Astro, "if you knew Wallace was tied up with the robbery of the Credit Exchange, why didn't you tell the Solar Guard before now?"

"Sonny," sighed Shinny, "most of what I know is space dust and space gas. But even so, I don't think Commander Walters or Captain Strong, or even you boys, would think much of me if I went around like an old space crawler, blowin' my jets all over the place."

Strong had listened to Shinny fill in the background of Bull Coxine with a thoughtful look in his eyes. He remembered all too clearly the mutiny on the ship out to Titan. Coxine had been an enlisted Solar Guard petty officer aboard the ship. He had made great strides in two years and was being considered as an officer candidate on the very day he tried to take over the ship. When Strong regained control later, he talked to Coxine, trying to find out why he had started the mutiny. But the man had only cursed him, swearing vengeance. Strong hadn't seen him since.

"So you think he would know where Wallace and Simms might be hiding out?" Strong asked finally.

"If anyone does," replied Shinny, "he does. And I'll tell you this, Captain, if

you go to talk to him and I figger you will, you'll find him a lot tougher."

"Will I?"

"Well, take yourself, for instance. No reflection on you, of course, but take yourself. You're smart, you're hard, and you got a good mind. You're one of the best spacemen in the deep. Take all that and turn it bad. Real bad. Sour it with too many years on a prison asteroid and you've got a fire-eating rocket buster as tough and as rough as God and society can make him!"

The three cadets gulped and looked at Strong. They saw their skipper clench his teeth and ball his fists into tight knots.

"I know," said Strong in a hoarse whisper, "but if he knows where Wallace and Simms are, he'll tell me. You can bet your last credit, he'll tell me!"

Shinny paused reflectively. "I won't bet," he said simply.

* * * * *

The air inside the space shack was stale because of a faulty filter in the oxygen circulator that neither Wallace nor Simms bothered to clean. The two men lazed around in stocking feet and undershirts, listening to popular music coming over the audio receiver on a late pickup from one of the small Jovian satellite colonies near by.

"Pour me another cup of coffee, Simms," grunted Wallace.

The smaller man poured a cup of steaming black liquid and silently handed it over to his companion. They both listened as the music faded to an end and the voice of the announcer crackled over the loud-speaker.

"This audiocast has been beamed to space quadrants D through K, as a courtesy to the army of uranium prospectors working the asteroid belt. Hope you've enjoyed it, spacemen, and happy hunting!"

Wallace reached over and snapped off the receiver. "Thanks, pal." He laughed. "The hunting's been real good! We've got a full catch!" The giant spaceman laughed again.

"Yeah," agreed Simms. "I just went over the take. We've got enough money in that locker"—he indicated a black box on the floor—"to sit back and take it easy for the rest of our lives."

"Yeah?" snarled Wallace. "You mean sitting in the sun on a crummy lakeside, watching the birds and bees?"

"Gus," asked Simms thoughtfully, "you got any idea how much fun we can buy with the credits in that box?"

"Yeah, I have!" sneered Wallace, "and I know what a thousand times that much will buy too!"

Suddenly Simms turned and looked his partner in the eye. "What do you say we quit now, Gus? I mean it. We got plenty."

"You sound like you been exposed to too many cosmic rays!" said Wallace, tapping his head with one finger. "We've got the biggest secret in the system, the adjustable light-key plus an airtight hide-out, and you want to quit!"

"It ain't that," whined Simms. "It's the other deal. I don't mind going out and blasting a few freighters, but to try to—"

"Lissen," interrupted Wallace, "I'd rather try it and take the licking if we mess it up, than not try it and take that licking. I know which side of the space lane I'd better be on when the time comes!"

Simms hesitated and then sighed, "Yeah, I guess you're right."

"Come on. Let's listen to that story spool again."

"Oh, no," moaned Simms. "I know that spool by heart! We've heard it at least fifty times!"

"One slip-up," said Wallace, sticking his finger in Simms' face, "just one slip-up and we're finished! We've got to be sure!"

With a reluctant shrug of his shoulders, Simms poured another cup of coffee and sat on the side of his bunk while Wallace inserted the story spool in the audio playback.

They settled themselves and listened as a deep voice began to speak in a loud whisper.

"… The operation will take place on the night of October twenty-ninth at exactly twenty-one hundred hours. You will make your approach from section eleven, M quadrant—"

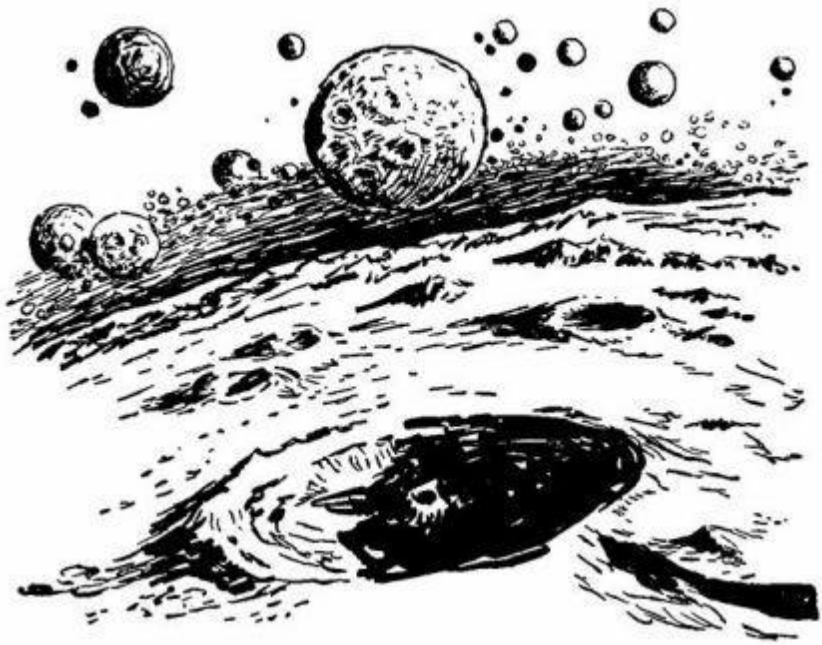
Simms jumped up abruptly and switched off the playback. Turning to Wallace, he pleaded, "I can't listen to it again! I know it by heart. Instructions on how to get to the time capsule; instructions on what to take, and how to build an adjustable light-key after we get the plans; instructions on how to hijack the first ship and what to take. Orders, information, instructions! I'm sick of listening. If you want to, go ahead, but I'm going to work on the ship!"

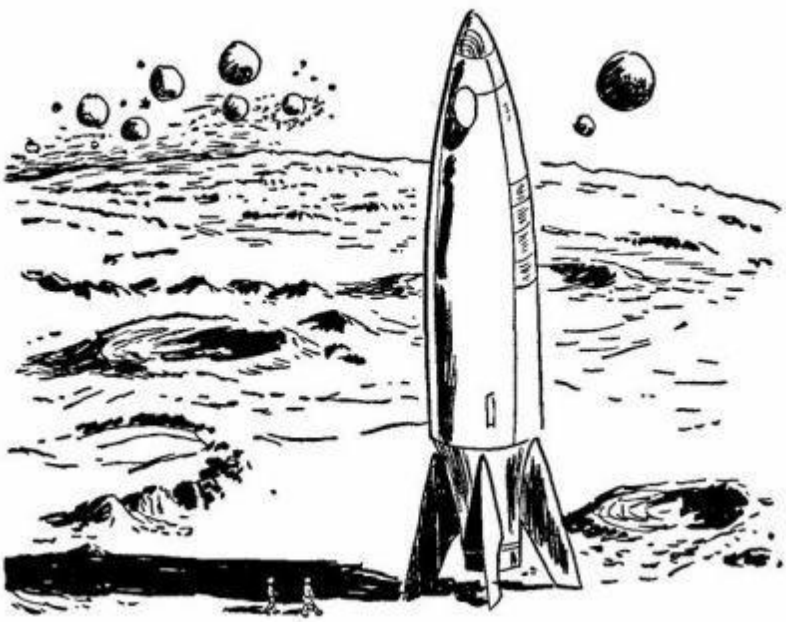
"O.K., O.K.," said Wallace, getting up. "Don't blow your jets. I hate the thing as much as you do. Wait a minute and I'll go with you."

The two men began climbing into space suits. In a few minutes they were dressed in black plastic suits with small round clear plastic helmets. They stepped into the air lock on one side of the room and closed a heavy door. Wallace adjusted the valve in the chamber and watched the needle drop until it showed zero.

"O.K.," said Wallace over his helmet spacephones. "All the air's out. Open the outer lock."

Simms cranked the heavy handle, and the door in the opposite wall of the chamber slowly swung open. They stepped out into the airless black void of space and onto the surface of an asteroid, drifting in the thickest part of the belt. Surrounding the asteroid were countless smaller secondary satellites circling the mother body like a wide curving blanket. The mother body was perfectly hidden from outside observation. It made a perfect base of operations for the two space pirates.





The freighter that they had used at the concession at the Solar Exposition and later to make their escape was a far different ship from the one now resting on the asteroid. Two powerful three-inch atomic blasters could be seen sticking out of the forward part of the ship. And near the stern, two gaping holes showed the emplacements for two additional guns not yet installed.

The two men walked over to the ship, and while Wallace entered the ship, Simms picked up a cutting torch and ignited it, preparing to finish the two holes in the stern.

When Wallace reappeared, he was carrying a coil of wire with a double plug to attach to the spacephones inside their helmets. He jammed the plug into Simms' helmet and then into his own. Simms' eyes lit up with surprise as he heard…

"…This is a general emergency announcement from Solar Guard headquarters. Squadrons A and B of the Marsopolis garrison will proceed to space quadrants W, sections forty-one to fifty. It is believed that Gus Wallace and Luther Simms are in that vicinity. Approach with caution, they are armed with atomic blasters and are believed to be psychologically unable to surrender. It is believed they will resist arrest…"

The voice repeated the announcement and added a general call for the men, if they were listening, to surrender. Wallace pulled out the two plugs and grinned at Simms.

"Picked it up on the teleceiver inside the ship. Thought you might like to know how safe we are here."

Simms grinned back, "And how far off the track they are. Where is that space quadrant they think we're in?"

"Out past Saturn," said Wallace with a grin. "With the Mars garrison chasing us at one end of the system, we'll hit them on the other and be gone before they know what happened!"

Simms patted the barrel of the nearest atomic blaster. "And, spaceman, we're going to hit them hard!"

CHAPTER 10

"Stop your ship and be recognized!"

The rasping voice on the audioceiver was sharp. A command to be obeyed.

Tom turned away from the control board and looked at Strong who was already reaching for the ship's intercom.

"Full braking rocket thrust, Astro," he yelled into the microphone, "and make it quick or we'll all be blasted into protons!"

Tom and the captain gripped their chairs tightly as the ship bucked against the deceleration force of the powerful braking rockets. Gradually the freighter *Dog Star* slowed and came to a dead stop in space.

"Hey!" yelled Astro over the intercom from the power deck. "What's going on up there?"

"We've just entered the outer circle of defense on the prison asteroid, Astro," replied Strong. "We have to stop so they can sweep us with their radar and identify the ship."

"But I sent them a message in Solar Guard code that we were coming," interjected Roger who was listening from the radar bridge.

"They still have to make sure it's us," said Strong.

"Identify yourselves!" commanded the voice over the audioceiver again.

"This is space freighter *Dog Star* under temporary command of Captain Strong of the Solar Guard," answered Strong.

"What's your business here?" demanded the voice again.

"Interrogation of one of your prisoners. We have sent a coded message, under code Z for Zebra to your prison commandant, Major Alan Savage. If you'll check with him, you'll find everything in order," said Strong.

"Very well," replied the voice crisply, and then added, "Remain where you are. Do not move from your present position or attempt to send any messages. If you fail to comply with these conditions you will be blasted!"

"Very well," said Strong, "conditions are understood."

"Boy," chimed in Roger, as he climbed down the ladder from the radar bridge, "they sure don't want any company here."

"And for good reason," said Strong. "The most vicious criminals in the whole universe are confined here. Every one of them is capable of committing any crime in the solar code. And most of them have. The men here are the worst. They have refused psychotherapeutic readjustment to make them into new men."

"But I thought they had to go through it, sir?" said Tom.

"No," replied Strong. "Even criminals have certain rights in our society. They can either remain criminals and stay here, or be psychoadjusted and given new personalities. The ones that refuse are the ones on this Rock."

"You mean," gasped Roger, "that the men on this asteroid deliberately chose to remain criminals?"

"Yes, Manning," said Strong. "Rather than become healthy citizens of the system, they prefer to stay here and waste their lives in isolation with no hope of ever returning to society."

"Can they change their minds after they get here?" asked Tom.

"Any time. But when they get this far, they usually stay here. The men on Prison Rock didn't surrender easily. They are the toughest, most ruthless men in the universe."

"Attention! Freighter *Dog Star*! Attention!" the audioceiver rasped into life again. "You have been given temporary clearance. A space launch will ferry you to the asteroid. You are warned that any weapons discovered on your person, or acts that may be construed as providing aid and comfort to the inmates of this prison, will be considered treason against the Solar Alliance and you will be subject to immediate disciplinary action."

Tom and Roger glanced at each other, a worried look in their eyes. Strong just smiled. "Don't worry, boys. That little speech is read to every visitor to the asteroid."

"Just the same, sir," said Roger huskily, "I would prefer to remain aboard the *Dog Star* and give you, Tom, and Astro the pleasure of the visit."

Strong laughed. "They won't let you, Roger. They'll send up a crew of guards to search the ship. And the way these boys search makes a customs inspection look like a casual glance."

"Attention *Dog Star*!" A younger voice suddenly came in on the audioceiver. "This is Lieutenant Williams aboard the space launch. We are approaching your starboard catapult deck. Please open the air lock and take us aboard."

"They sure don't waste any time," commented Tom as he turned to the audioceiver. "Freighter *Dog Star*, Cadet Tom Corbett to Lieutenant Williams," he called, "the air lock is open and the catapult deck is ready to receive you." At the same time, the young cadet turned the valve that would open the outer air lock to the jet-boat deck.

Five minutes later, the ship was swarming with tight-lipped enlisted Solar Guardsmen, who spoke to Strong and the cadets with cool courtesy. These were men who signed up for two years as guards on the Rock after competing with thousands of other enlisted men. A guard on the Rock was paid triple wages for the two-year isolation. But more than anything else the right to wear the bright white patch with a paralo-ray gun in the center denoting their service as guards on the Rock was prestige envied even by commissioned officers of the Solar Guard.

After what Tom thought to be the most thorough search he had ever seen

was over, Lieutenant Williams reported to the control deck where Strong and the cadets had been politely but firmly detained. He informed them that they were now ready to blast off to the Rock, adding that a more detailed search of the area between the ship's outer and inner hulls would be conducted after they had gone.

"You mean," said Tom, amazed, "that you actually search the four inches between the two hulls? What in the universe could we possibly hide in there?"

"I don't know, Corbett," replied Williams. "We've never found anything there." He turned to Strong and smiled. "But there's always a first time, isn't there, sir?"

"Yes, of course," agreed Strong. "You do a thorough job, Williams. Very good indeed!"

"Thank you, sir," said Williams. "You know, we've heard about you and the *Polaris* unit here on the Rock." He turned to Tom, Roger, and Astro. "We have a stereo of that mercuryball game you played at the Academy when you were Earthworms."

"What?" cried Tom. "You mean that game was recorded?"

"It sure was," said Williams. "But we've seen it at least fifty times."

"Well, blast my jets!" said Astro in amazement.

The game was one that the cadets had played when they first entered the Academy. It had done much to unify the boys into a fighting team.

An enlisted sergeant suddenly appeared, snapping to attention in front of Lieutenant Williams. "Ready to blast off, sir," he said.

"Very well," said Williams, then turned to Strong and the cadets. "Follow me, please."

In a few moments the space launch was blasting away from the freighter and heading for a tiny planetoid in the distance. As they drew near, Strong and the cadets peered out of the ports to get a view of the prison, but were disappointed when Williams ordered the ports covered.

He smiled apologetically at Strong and explained, "All approaches are secret, sir. We can't allow anyone to see where our defenses are located."

"You fellows certainly believe in keeping prisoners in and visitors out!" commented Strong.

"Anyone interested in coming to the Rock, sir," said Williams, "is under natural suspicion."

The three cadets gulped, duly impressed with the severity of the prison routine.

Soon they felt the unmistakable jar and bump of the small space vessel touching the surface of the planetoid. The jets cut out suddenly and Williams stood up.

"Please follow me. Do not speak to anyone, and do not stop walking. Keep your hands in front of you and maintain a distance of ten feet between you and the man in front of you."

He walked through the open hatch where a hard-faced enlisted guardsman

stood rigidly, holding a paralo-ray gun at the ready.

With a quick nod to the cadets Strong followed Williams through the hatch. At ten-foot intervals they followed him out of the hatch, with Tom bringing up the rear and the enlisted guardsman behind him.

As Tom stepped out onto the surface of the asteroid he wasn't quite sure what he expected to see, but he certainly wasn't ready for the sight that greeted his eyes.

As far as he could see, there was grass, spotted with small one-story buildings. To the left was a single towering structure built of Titan crystal and on top of it was the largest atomic blaster he had ever seen. He turned to ask the guardsman about the gun but was motioned ahead with a curt, "No questions. Keep walking."

Tom continued to walk. He noticed that they were heading for the tower. As he drew nearer, he could see men walking around a narrow catwalk at the top. They all carried paralo-ray rifles with miniature grids mounted on the barrel. Inside the rifle was a tiny radar direction finder. It was a simple but effective control against escaping prisoners. Each of the inmates of the Rock wore small metal disks welded to a thin chain around their waists. The disk was sensitive to radar impulses, and with no more effort than snapping a thumb catch on the rifle, the guard could locate and paralyze the nearest disk-wearing inmate.

Tom was so full of questions it was necessary for the guard to warn him again, only this time in sharper tones.

Entering the tower, they were scrutinized and cleared by an electronic beam that passed through their bodies and indicated any metal they might carry. Once through this last barrier, they were escorted to a slidestairs, where Williams left them.

Throughout the entire procedure few words had passed between the cadets. Now left alone on the stairs, they couldn't contain themselves and the comments and questions tumbled out.

"Did'ja see that blaster on top of this place?" Roger blurted out.

"Those radar-controlled paralo-ray rifles are really something!" said Astro.

"The thing I want to know," said Tom, "is where are the prisoners? I haven't seen one yet."

"And you're not likely to, either, Cadet Corbett!" said a gruff voice above them. They turned to see a heavy-set man wearing the uniform of a major in the Solar Guard, standing on the floor above them. The slidestairs carried them to his level and Captain Strong hopped off and extended his hand in greeting.

"Major Savage!" he explained. "Good to see you again!"

"Same here," said Savage, returning Strong's firm handclasp. He turned and faced the cadets. "So this is the *Polaris* unit, eh?" He smiled. "We've really enjoyed the stereo of that game of mercuryball you played back at the Academy."

"Thank you, sir," said Tom. "Lieutenant Williams has already told us how much he liked it."

"Come into my quarters and relax. I imagine you could do with some good solid food after those synthetics on your trip."

"We certainly could, sir," said Strong.

They followed the big man through a sliding panel into a suite of comfortably furnished rooms. Five minutes later, the cadets and the officers were enjoying their first hot meal in a week. As they ate, Major Savage brought up the purpose of their visit. "So you've come to talk to Bull Coxine, eh?"

"Yes," nodded Strong. "And I don't imagine he has developed any affection for me."

"No, I wouldn't say he has," replied Savage. "In fact, I don't think Bull has any affection for anyone, not even himself. Why do you want to see him, anyway?"

Strong quickly summarized the theft of the adjustable light-key and the unsuccessful search for Wallace and Simms, concluding finally with the knowledge of Coxine's association with Wallace.

"I'm hoping Coxine will give me a lead to Wallace's whereabouts," said Strong.

"Well, you can ask him," shrugged the major. "But personally, I don't think you're going to get any further than saying hello. If he'll even let you say that. He hates you, Strong. Hates you in a way I've never seen a man hate before. When you talk to him, be careful."

"I will," said Strong grimly.

"Don't let him get near you. He's the strongest man I've ever seen. Came blasted near choking a guard to death with one hand when he escaped. He could break a man's neck with both hands."

Strong smiled. "Evidently, Major, you haven't noticed the size of Cadet Astro. I'll take him along with me for protection." He looked at Astro, who flushed in quick embarrassment.

"Very well, Strong," said Savage. "I'll have a jet car brought around. You can go right down to his hut."

"Er—may I ask a question, sir?" asked Tom.

The major smiled. "Go right ahead, Corbett."

"It's about this whole setup," explained Tom. "I was expecting fences and prisoners and—well, most anything but green grass and small white buildings!"

"The little huts you saw," replied the major, "are as much of a prison as we have. Each hut holds one prisoner. He has all the necessary furniture, in addition to audioceivers and story spools which he can change once a week. He also has basic garden equipment. All prisoners grow everything they eat. Each man is dependent on himself and is restricted to the hut and the area around it. If he comes within two miles of the tower, the guards will pick him up on radar and order him back. If he comes within one mile, they fire without further warning. Only one man has ever escaped. Coxine. And that was

because we had a sick man on guard duty, or he never would have made it. He overpowered the guard, took his uniform, and stowed away on a supply ship. We caught him a year later."

"Didn't your radar pick up the disk he was wearing, sir?" asked Roger.

"That method of protection was only installed a few months ago," said the major.

"And the prisoners just sit there—in those little huts?" asked Astro.

"Yes, Astro!" said the major with a tone of finality in his voice. "They just sit. This is the end of the line."

The three cadets looked at each other and secretly vowed never to take a chance of doing anything that would send them to the Rock.

Five minutes later, Strong was driving a jet car along a narrow paved road toward one of the white huts. Astro sat beside him grimly silent, his hands balled into tight hamlike fists. They rounded a curve and Strong pulled up in front of the house. As they climbed out of the car, they could see the trim neat lanes of the little garden with carefully printed signs on each row indicating what was growing. They started for the house and then stopped short. Bull Coxine stood in the doorway, watching them.

Dressed in the snow-white coverall of the prison garb, Coxine faced them squarely, his thick trunklike legs spread wide apart. He was a giant of a man with long heavily muscled arms that dangled from a huge pair of shoulders. His jet-black hair was a tangled unkempt mass, and his face was scarred and lined. Eyes blazing with unconcealed hatred he waited for Captain Strong to make the first move.

"Hello, Bull," said Strong quietly. "I'd like to talk to you."

"Oh, you would, huh?" Coxine spat and his lips twisted in a mocking grin. "What's the matter? Afraid to talk to me alone?" he indicated Astro. "Did you have to bring one of your Space Cadets for protection?"

"Listen, Bull," urged Strong, "I was your friend once. I turned you in because you were a mutineer and I was an officer of the Solar Guard. I'd do the same to this cadet if he tried what you did."

"Yeah, I'll bet you would," snarled the criminal. "Just like a real friend!" His voice deepened into a low roar. "Don't talk to me about the old days! I'm on the Rock and you're just another Solar Guard space crawler to me. Now get out of here and leave me alone."

"I came to ask you to help me, Bull," Strong persisted. "I need information."

Coxine's eyes narrowed into slits. "What kind of information?"

"You once tried to hold up a Credit Exchange on Ganymede with a man called Gus Wallace. He had a hide-out in the asteroid belt. I'd like to know where it is," said Strong.

"Why?"

"I can't answer that, Bull."

"What do I get if I tell you?"

"Nothing, except my thanks and the thanks of the Solar Guard."

"And if I don't?"

"I'll turn around and leave."

"Then start turning, Strong," snarled the giant prisoner, "because I ain't got nothing to tell you except how much I hate your guts!"

Astro moved forward slightly, but Strong held him back. "O.K., Bull. If that's the way you want it, I'll leave."

"Why don't you let the young punk try something?" challenged Coxine. "I ain't had any exercise in a long time."

Strong looked at the huge man and said coldly, "I wouldn't want the death of a piece of space scum to show on his record."

Then, as if the space and sky overhead had suddenly been torn open, there was a flash of light followed by the roar of a tremendous explosion. The ground trembled. The air seemed to moan in agony. Strong and Astro wheeled around and looked toward the tower that shimmered in the light of the late afternoon sun. To their horror, they saw the unmistakable mushrooming cloud of an atomic blast rising in the synthetic atmosphere behind it.

"By the craters of Luna—" gasped Strong.

A second flash and explosion rocked the prison asteroid and suddenly the tower disappeared. Almost immediately, a spaceship appeared over the small planetoid and began systematically pounding the surface installations with atomic blasters.

"Captain Strong," cried Astro. "Tom and Roger—they were in the tower!"

"Come on," yelled Strong, "we've got to get back!"

"You ain't going nowhere, Strong," snarled Coxine behind him. "I've been waiting a long time for this!" He suddenly struck the Solar Guard officer with a heavy rock and Strong slumped to the ground unconscious. Before Astro could move, Coxine smashed him to the ground with a blow on the back of the neck. They both lay deathly still.

Then, as the atomic bombardment of the penal asteroid continued, the giant space criminal jumped into the jet car and sped away.

CHAPTER 11

"Fire!" bawled Major Savage to his crew of gunners.

At the other end of the field one of the remaining two undamaged rocket destroyers blasted off to battle the invading spaceship.

Tom and Roger had been on a tour of the great central tower with Major Savage when the attack came and had been ordered to find safety in the open fields. The major knew the tower would be one of the first targets.

Sprawled on the ground behind a bunker, they saw the major, his space jacket torn from his back, standing in the middle of the field, quietly issuing orders to scarlet-clad spacemen, desperately trying to organize the penal asteroid's defenses.

The spaceship, which had somehow managed to penetrate the tight radar warning screen around the prison, had struck with merciless precision. Again and again, its atomic blasters had found the most important installations and had wiped them out. The first target, after the tower had been shattered, was the underground launching ramps for the asteroid's small fleet of rocket destroyers. But even after a direct hit, the guards were able to ready two ships to fight the attacking spaceship. The first was already diving in, her small one-inch blasters firing repeatedly.

Suddenly, Lieutenant Williams, in command of the second ship, came racing up to Major Savage, to report that his radarman had been hit and the ship couldn't blast off.

"Here's where I get into the act!" Roger jumped up immediately, and with a brief "So long, spaceman" to Tom, raced off to join Lieutenant Williams.

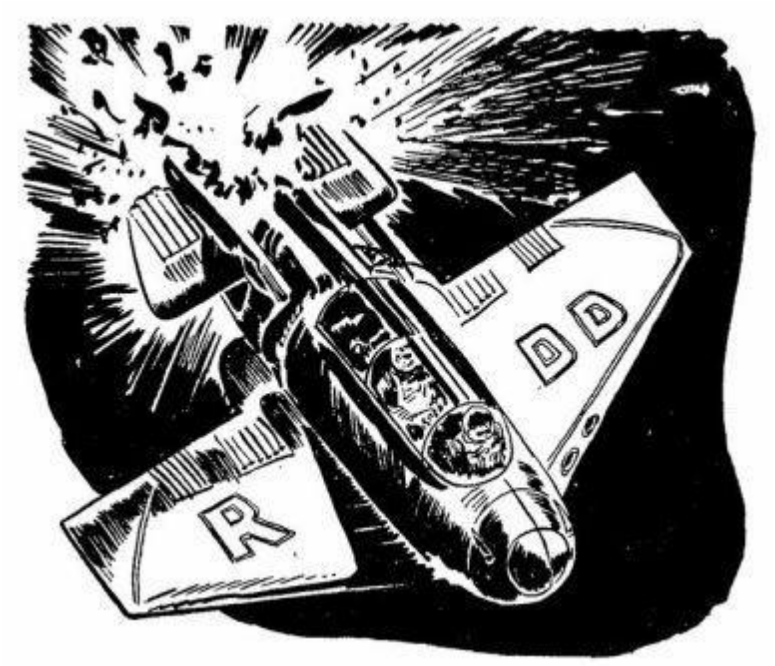
"Spaceman's luck," yelled Tom as the officer and the cadet ran toward the waiting ship.

Looking skyward again, Tom saw the first destroyer diving toward the attacking spaceship, trying to get in range with her lighter armament. Suddenly there was a burst of brilliant light. The lighter ship had been completely destroyed by a direct hit.

Sick with horror, Tom looked away and watched the ship Roger had joined blast off under full acceleration. It roared spaceward in a straight line, disappearing at incredible speed.

Meanwhile, the invader continued to blast relentlessly. One—two—three—four—automatic reload—one—two—three—four, reload. Over and over, firing at seemingly peaceful fields of grass, only to strike an armory, space cradle, or supply depot buried underneath the ground. Suddenly it changed its

course and trained its guns skyward. Tom looked up and saw a tiny flyspeck roaring straight down at the ship. It was Lieutenant Williams' rocket destroyer, with Roger on the radar bridge, in a suicidal attempt to destroy the invader. But the larger ship was ready. The two forward blasters opened fire. A flaming ball of light exploded near the stabilizer of the destroyer and it fell off course to float helplessly in free-fall orbit around the asteroid. Still lying on the ground, Tom sighed with relief. At least Roger was all right.



Then the young cadet saw the invading spaceship move away from the area around the tower toward the horizon not too far away on the small planetoid. He followed it with his eyes and saw it suddenly land near a cluster of white prisoner huts. Tom gasped as the reason for the attack became clear.

"Major! Major! Major Savage!" he called as he raced across the field. But the major was nowhere to be seen. A guard carrying a medical kit hurried past him and Tom grabbed him by the arm.

"Major Savage! Where is he?"

The guard pointed to a near-by stretcher and Tom saw the unconscious figure of the major sprawled on the plastic frame.

"But—but the prisoners are getting away!" yelled Tom.

"I can't do anything about it. I've got wounded men to care for!" The man jerked away and disappeared in the smoky, choking dust.

The curly-haired space cadet, his face blackened from the smoke, his lungs crying for fresh air, started across the blast-pitted field, looking for help. But there was none to be had. Suddenly he wheeled in the direction of the spaceship and started to run toward it.

As soon as the young cadet had left the smoking area around the wrecked tower, he realized that it was the only section of the small satellite that had suffered attack. Ahead, he could see the prisoners in their white suits crowding around the stabilizer air lock of the invading ship.

Tom dropped to his stomach and watched the knot of men. Suddenly the air-lock portal slid open. There was a loud cheer and the prisoners began scrambling aboard.

Tom knew he would have to move fast. Taking a dangerous chance, he rose to a half-crouch and dashed to one of the small white huts only a hundred feet away. With a final glance at the thinning crowd of escaping men around the ship, he ran straight for an open window, diving headlong through it.

Inside, Tom waited breathlessly for a shout or warning that he had been seen, but none came. He glanced through the window and saw that only seven or eight men remained outside the port. He turned away quickly and began searching the hut.

He found what he was looking for rolled up on the bed where its owner had used it as an extra pillow. He shook out the prison suit of white coveralls, stripped off his own blue cadet's uniform, and hurriedly put on the distinctive prison gear. It was a little large for him and he rolled up the sleeves and trouser legs, hoping no one would notice in the excitement. Then, with a deep breath, he stepped out of the hut into full view of the prisoners still left at the air lock.

"Hey, wait for me!" he yelled, running for the ship.

The men paid no attention in their haste to get aboard the ship. When Tom reached the air lock, there were only two left. He slapped the nearest man on the back.

"Pal, I've been waiting for this a long time!"

"Yah," the man answered, "me too!" Then he looked at Tom closely. "Say, I've never seen you around here before!"

"I just got in on the supply ship last week. They kept me in the tower for a while," Tom replied.

"Oh, well," said the man, "they ain't keepin' anybody there anymore!"

"Come on you guys," snarled a heavy-set man in the air lock above them. "We ain't got all day!"

Tom looked up, and without being told, he felt he was looking into the face of Bull Coxine. And when the other prisoner spoke, he was certain.

"Yeah, Bull," said the man. "Comin', comin'!" He reached up and Bull grabbed his outstretched hand. When Bull pulled, the man literally leaped

through the air into the air lock.

"All right, space crawler," roared Bull to Tom, "you're next!" The big man stuck out his hand. Tom gulped. For one desperate second he thought of turning and running away.

"Well?" growled Bull. "You coming or ain't cha?"

"You're blasted right I'm coming," said Tom. "This is one time the Solar Guard is taking it on the chin. And, crawler, am I happy to see it!"

He grabbed Bull's hand and was lifted as easily as if he had been a feather. Coxine dropped him on the deck and turned away without a word to disappear inside the ship.

As he looked around, Tom suddenly felt a cold shiver run through his body. He felt as if he had signed his own death warrant. There was no mistake about it. The ship was the same one he had watched night after night at the exposition on Venus. And the names of the two owners exploded in his brain. "Wallace and Simms!"

He turned to jump out of the air lock, but it slid closed in front of him. He was trapped.

* * * * *

Sprawled on the ground in front of one of the white houses near the tower perimeter, Captain Strong stirred, shook his head, and painfully rose to a half-crouch. With eyes still dulled by shock, he looked around to see Astro lying unconscious a few feet away. His brain still reeling from the effects of Coxine's sneak attack, he staggered over to his knees beside him.

"Astro, Astro—" Strong called. "Astro, snap out of it!"

The big Venusian moaned and opened his eyes. He sat bolt upright. "Captain Strong! What happened?"

"I'm not too sure, Astro," said Strong. "All I remember is Coxine slugging me."

As they struggled to their feet, they suddenly noticed the towering columns of smoke rising into the air.

"By the rings of Saturn!" gasped Strong. "Look, Astro!"

"Blast my jets!" cried the big cadet. "What—what could have happened?"

The two spacemen stood gaping at the shattered remains of the tower and the smoldering area around it. In the distance, scarlet-clad guardsmen moved dazedly around the wreckage and above them a rocket destroyer was blasting on one jet, coming in for a touchdown.

"Astro," said Strong grimly, "I don't know how it could have happened, but the prison asteroid has been attacked. A rocket-blasting good job of it! Come on! We've got to get over there!"

"Yes, sir," said Astro. As they started running toward the field, he searched the figures moving about in the distance for two familiar blue uniforms. "I don't see Roger or Tom, sir," he said hesitantly. "Do you think—?"

"We'll just have to wait and see," interrupted Strong grimly. "Come on, step it up!"

As the two spacemen approached the smoking ruins of the underground cradles, ammunition dumps, and repair shops, they passed groups of men digging into the rubble. In sharp contrast to the careful scrutiny they had received when they first arrived at the prison, no one noticed them now. Strong stepped up to a man in a torn and dirty sergeant's uniform.

"What happened?" he asked.

The man turned and looked at Strong and Astro. Aside from the swollen bump on the Solar Guard captain's head and the bruise on the cadet's neck there were no signs of their having been in the attack. When the guardsman finally replied, there was a sharp edge to his voice. "I thought *everyone* knew we were attacked, *sir*!" He turned back to a detail of men who were watching. But Strong pulled the man up sharply.

"Attention!" he barked. The sergeant and the crew came to stiff attention. Strong stepped forward and looked the guardsman straight in the eye. "Under any other circumstances, Sergeant," snapped Strong, "I'd have your stripes and throw you in the brig for your insolence! Now I want a clear account of what happened. And I want it blasted *quick*!"

"Yes, sir!" stammered the guardsman, realizing he had gone too far. He hurriedly gave a detailed description of the battle, ending with a report that Major Savage had been injured and that Lieutenant Williams was now in command of the prison.

"Where will I find Lieutenant Williams?" asked Strong.

"At the rocket destroyer, sir. It just landed."

"Very well, Sergeant!" said Strong, adding in a gentler tone, "I realize you've had a rough time of it, so we'll forget what just happened. Get back to your work."

As Astro followed the Solar Guard captain toward the rocket ship he saw a familiar figure standing near the air lock. A boy with close-cropped blond hair and wearing cadet blues.

"Roger!" yelled Astro joyfully. "Captain Strong, look! It's Roger!"

They quickened their pace and were soon beside the small space vessel that had been blasted out of commission before it could fire a shot. While Roger was telling them of having volunteered for radar operations aboard the ship and of their being disabled by a near miss, Lieutenant Williams suddenly appeared in the air lock and saluted smartly.

"Major Savage has been injured, sir," said Williams. "Since you are the highest ranking officer on the asteroid, are there any orders?"

"I'm not acquainted with your men, or your prison, Williams," replied Strong. "I'll accept the command as a formality but appoint you my chief aid.

Carry on and do anything necessary to get things cleared away."

"Very well, sir," said Williams.

"Have communications been destroyed?"

"Yes, sir. Communications was located in the tower, but Cadet Manning has converted the equipment on ship for long-range audio transmission."

"Very good!" said Strong. "As soon as you get a chance, I want you to make out a full report on the attack, including your personal opinion of who attacked us and why."

"I don't know who manned that ship, sir," said Williams, "but I can tell the reason all right. Every prisoner on the asteroid has escaped!"

"Yes," mused Strong. "I thought that would be the answer. But how did that ship get through your defenses?"

"Captain Strong," said Williams grimly, "I don't think there is any question about it. Someone broke the asteroid code. The attacking ship identified itself as the regular supply ship."

"A Solar Guardsman?" asked Strong.

"No, sir," said Williams. "I'd bet anything that none of our men would do that!"

"Then who?" asked Strong.

"Only one man would be smart enough to get the code and break it, and then sneak it off to the attacking ship!

"Who?" asked Strong.

"Bull Coxine!" answered the young officer through clenched teeth.

They were interrupted by a guardsman. "Sir, we found this in prison hut twenty-four."

"What is it?" asked Strong.

Astro's eyes suddenly widened and he stepped forward. "Why, that's… that's Tom's uniform!" he stammered.

"Tom!" gasped Strong. "But where is he?"

"We've searched the immediate area, sir," replied the guardsman. "Cadet Corbett isn't here."

"Are you sure?" demanded Strong.

"Yes, sir," said the guardsman stoutly.

Strong took the uniform and examined it carefully. Then he turned to Roger and snapped, "Prepare the audioceiver for immediate transmission to Space Academy, Manning. Astro! Get aboard our ship. Check her for damage and let me know how soon we can blast off!"

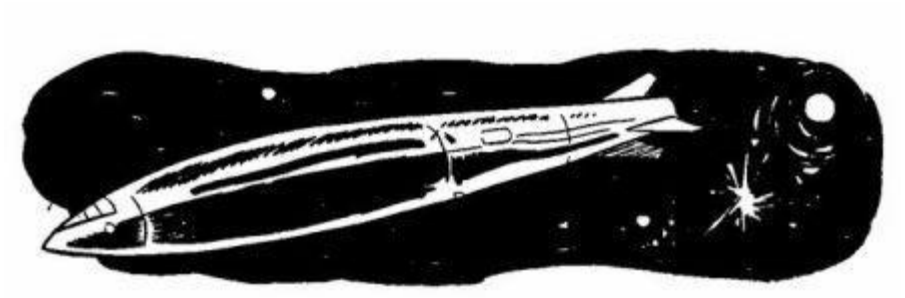
The two cadets saluted and raced for the small spaceship.

Thoughtfully holding Tom's uniform in his hand, Strong turned back to Williams. "I'm going to leave as soon as I can, Williams. I'll tell Space Academy about the attack and see that a relief ship is sent out to you right away. Meantime, I'm leaving you in command." He paused and looked at Tom's uniform again. "If Cadet Corbett isn't on the asteroid, he must be on the attacking ship with the prisoners. The only question now is, do they know it?"

"You mean he smuggled himself aboard?" asked Williams.

"I'm almost sure of it!" said Strong. "And if he *is*, he's going to try to get some sort of message out. I've got to be ready to pick it up."

Strong paused and looked up at the sky overhead, still thick with smoke. "And if he does ask for help, I'm going to answer him with the biggest fleet of spaceships he'll ever see in his life!"



CHAPTER 12

"Stand by, you space crawlers!" roared Bull Coxine into the microphone, but the loud laughter and singing of the noisily celebrating prisoners continued unabated over the intercom's loud-speakers. "Avast there!" he bellowed again. "Stow that noise! Attention! And I want *attention*!"

Standing on the control deck of his ship, Coxine waited as the men gradually quieted down. No longer wearing the white prison coverall, he was dressed in a black merchant spaceman's uniform, the snug-fitting jacket and trousers stretching tightly across his huge shoulders. He wore a black spaceman's cap, and two paralo-ray pistol belts were crisscrossed over his hips.

"Now listen to me!" he roared again. "Let's get one thing straight! I'm the skipper of this ship and the first man that thinks he's smarter than me, let him speak up!"

There was a long pause and the big man added with an ominous whisper, "But I warn you, if one of you opens your mouth, you'll take a swim in space!"

There was an angry murmur among the prisoners that Coxine heard over the intercom. "Don't think I can't take care of you, the lot of you, one by one or all at once. I cut my milk teeth on mutiny. I know how to start one and I know how to finish one! I needed a crew and that's the only reason you're here! Any spaceman that doesn't like the way I run things aboard this ship, better keep it to himself, or start swimming back to the prison asteroid!" He paused. "Well? Are you all with me?"

There was a chorus of cheers on the intercom and Coxine nodded grimly.

"All right," he continued, "now that we understand each other, I'll get on with the business. Second-in-command to me will be Gus Wallace. *Lieutenant* Wallace!"

A roar of approval came over the loud-speaker.

"Third-in-command—Luther Simms! *Lieutenant* Simms!"

There was another roar of approval as the prisoners recognized the names of the men who had liberated them from the asteroid.

"Now, we'll handle this ship as if it were any other freighter. The following men will be in charge of departments!"

As Coxine read off the list of jobs and the men to handle them, there were yells of approval and disapproval for favorites and old enemies. When the list

of names had been read, he turned away from the intercom and faced his lieutenants, Wallace and Simms.

"Well, skipper," boasted Wallace, "it looks like we're in business again!"

"Yeah," chimed in Simms. "In three hours we'll be on our own asteroid and we can start planning our first strike!"

Coxine's eyes narrowed into slits. "Get this, both of you!" he snapped. "What I said to those crawlers down below goes for you too. I'm the boss of this outfit and you don't even guess about what we're going to do, until I say so!"

"But, Bull—!" whined Wallace.

"Shut up!" roared Coxine. "And when you talk to me, you call me captain!"

Wallace and Simms looked at each other. "O.K., Captain," muttered Simms.

"Yes, *sir*!" corrected Coxine.

"Yes, sir," said Simms quickly.

"That's better," growled the giant spaceman. "Don't get the idea that just because you were able to follow orders that it makes you smart. Because it doesn't! It took me two and a half years to get the information collected onto these story spools and smuggle them out to you. Everything, from where to buy this spaceship to getting the light-key out of the time capsule, was my idea! My brains!"

"Sure, Captain," said Wallace, "but we took the chances!"

"Yeah," sneered Coxine. "You took chances! The only chance you took was in not paying attention to what I told you to do. I gave it all to you. Where to hold up the first freighter passenger, what to take, how to mount the atomic blasters, what code to use in getting through the prison defenses. The whole works! And I did it while sitting on the toughest Rock in the system. I smuggled it out right under the noses of those Solar Guard space crawlers. So forget about being smart, or you'll wind up with that scum below decks!"

"Yes, sir!" said Wallace.

"Now get me a course to the asteroid and make it quick. And have some decent grub sent up to my quarters right away!"

The big man turned lightly on the balls of his feet and disappeared through the hatch. After a moment, Wallace turned to Simms.

"That big space-crawling bum!" snorted Wallace. "I oughta blast him!"

"Go ahead!" sneered Simms. "You were the one who wanted to get him off the Rock, not me!"

"Aw shut up!" snarled Wallace. He turned to the intercom and began barking orders to his new crew.

* * * * *

Tom Corbett sat in one corner of a cargo compartment that had been converted into sleeping quarters, watching the celebrating prisoners. Someone had broken into the galley stores and mixed a concoction of fruit, alcohol, and reactor priming fluid to make a foul-tasting rocket juice. The men sat about in various stages of undress as they changed from the white prison coveralls to the black uniforms of the merchant spaceman, and drank heavily from a huge pot of the liquid.

One of the men, short and stumpy, but with shoulders like an ape, was standing on a table boasting about his strength. He was stripped to the waist and Tom could see the powerful arms and chest beneath the black hair that covered his body. As he continued to brag, the prisoners laughed and jeered, calling him Monkey. The man's face reddened and he offered to fight anyone in the room. A short, thin man with a hawk nose sitting next to Tom yelled, "Monkey," and then darted behind a bunk. The man turned and looked angrily at Tom.

"You there!" the man on the table called, looking at Tom. "You call me Monkey?"

Tom shook his head. Since the blast-off he had stayed away from the men as much as he could, certain that sooner or later someone would challenge him and discover he wasn't a prisoner. He hoped to remain aboard the ship long enough to plant a signal for the Solar Guard to follow. Tom felt almost certain they would be heading for Wallace and Simms' hide-out. And so far, the men had been so excited over their new freedom they hadn't bothered him. He had managed to sit quietly in the corner of the storage compartment and watch them.

"I'm talking to *you*!" shouted the hairy man, looking straight at Tom. "You called me Monkey and then lied about it! Maybe you're scared, eh?"

He slipped off the table and advanced toward Tom. The young cadet tried to figure a way out of the threatening fight. He wasn't afraid of the man, but he didn't want to draw attention to himself. And one of the surest ways of letting Wallace and Simms know he was aboard ship was to get into a fight. He couldn't risk discovery. He had to signal the Solar Guard before he was caught. But how to get around the hairy, drunken criminal now standing over him?

Tom looked up and saw that the man would not be put off. He would have to fight. He took notice of the powerful arms and shoulders, and decided his best bet would be to stay away, but glancing around quickly he saw there wasn't any room to retreat. The other prisoners were crowding around, eager to watch the fight. Suddenly his opponent let out an animal-like roar and jumped to pin him down on the deck.

The young cadet timed his move perfectly. As the man's body came down on him, he threw up both legs and caught him in the pit of his stomach. Tom could feel his feet sink deep into the man's mid-section as he kicked out hard and sent him sprawling against the bulkhead. With a bellow of rage, the hairy

man picked himself up and charged back at Tom, who was now on his feet, braced to meet him.

The young cadet timed his move perfectly

The young cadet timed his move perfectly

As the prisoners began to roar, Tom side-stepped and back-pedaled frantically, trying to get out of the impossible situation. If he won, there would be questions for him to answer. Questions that would be difficult and might betray his identity. But if he allowed Monkey to win, he might die right there on the deck. The man was blind with rage and would stop at nothing.

The man rushed in again and, unable to back away, Tom felt the hairy arms

close around him in the most powerful grip he had ever felt in his life. Slowly, evenly, Monkey applied pressure. Tom thought his ribs would crack. His head began to swim. The faces around him that laughed and jeered suddenly began to spin around him dizzily.

Then, with the desperation of a man facing death, Tom began to push outward, his arms under Monkey's chin. The man tried to apply more pressure but the cadet fought him, forcing his head back farther and farther. The prisoners were silent, watching the deadly battle. Then, gradually, Tom felt the hairy man's grip relaxing. With the last ounce of his strength he burst out of the encircling arms and staggered back. The ape man looked at him stupidly and then down at his arms as if they had betrayed him. With a roar, he came rushing in again. Tom set himself, left foot forward, shoulders hunched, and when Monkey came within arm's length, he swung with all the strength he had left in his body. His fist landed on the point of Monkey's chin. There was a distinct sound of crushing bone and Monkey sank to the deck, out cold. Gasping for breath, Tom stood over the sprawled man and just looked at him. The crowd around him was staring at the fallen man in disbelief. Through the roaring in his head, Tom could hear their voices, "He broke out of Monkey's grip!" "He broke the guy's jaw with one punch!"

Tom turned blindly to the corner where he had been sitting and slumped to the deck. Someone shoved a cup in his hands and he gulped its contents blindly, hardly tasting the foul rocket juice or feeling it burning his throat.

The cadet was sure now that he would be caught. Monkey had been a popular member of the crew and some of his friends were certain to even the score. But to Tom's surprise, there were no questions and a few of the men came over to pat him drunkenly on the back. A couple of them dragged the unconscious man out of the compartment and up to sick bay. The others soon forgot the fight and continued their merrymaking.

Tom sat alone and silent in the corner, his strength returning slowly. He had faced his first obstacle and had won. But he knew that what lay ahead of him made the fight insignificant by comparison. He decided his next move would be to acquaint himself with the ship and, if possible, get a paralo-ray gun.

As the men continued their drunken singing and yelling he mumbled an excuse about soaking his fist in cold water and managed to escape from the crowded compartment.

Outside in the passageway, the cadet began to figure out the plan of the ship, first locating the power deck by its roaring purr. He climbed a ladder to the next deck, walked slowly down the passageway toward what he thought to be the control room, and leaned against the hatch. He heard the soft tinkle of a radar signal and his heart skipped a beat. He had stumbled onto the astrogation and radar bridge. Wondering if he should burst into the room and attempt to overpower the men on duty, or wait for a better chance later, he was suddenly startled by a sharp voice in back of him.

"You—spaceman!" Tom turned to stare right into the face of Bull Coxine!

The big man looked at Tom with piercing eyes.

"What's your name?" demanded Coxine.

"Uh—uh—they call me the Space Kid!" he finally managed.

"Space Kid, eh?" mused Coxine. "I don't remember seeing you on the Rock."

"They held me in the tower for a month trying to make me take the psychograph rehabilitation. I got out when the blasting started."

"What were you on the Rock for?" asked Coxine. "You're pretty young to be sent to the Rock."

Tom thought desperately of a crime he could have committed that would send him to the prison asteroid. Suddenly he got an idea. He looked at Coxine and spoke in as harsh a voice as he could.

"Listen," he snarled, "I just broke Monkey's jaw for treating me like a kid. I hope you don't crowd me into fighting you by asking so many questions. Y'see I won't answer them and then you'll have to freeze me." Tom paused and tried to gauge Coxine's reaction. But he couldn't see a thing in the cold staring eyes. "And," Tom continued, "if you freeze me, you'll lose a better man than most of the scum in your crew!"

Coxine stepped forward and towered over the curly-haired cadet. When he spoke, his deep voice echoed in the deserted passageway.

"What was your rating as spaceman before you hit the Rock?" asked the big man.

Tom's heart raced. If he could get to the control deck or the radar bridge, he could send his signal easily. But he realized quickly that in either of these places he would be spotted almost immediately by Wallace or Simms. He had to stay away from them and wait for a later chance. Tom's mind raced.

"I was a gunner on a deep spacer," he drawled confidently. "I can take the space tan off a crawler's nose at a hundred thousand yards with anything from a two-inch to a six-inch blaster."

Coxine's eyes sharpened. "Where did you learn to use a six-incher? They're only on heavy cruisers of the Solar Guard!"

Tom could have bitten his tongue off. He had slipped. He thought quickly. "I was an enlisted spaceman in the Solar Guard."

"Why'd you get sent to the Rock?"

"My officer was a smart-alec lieutenant just out of Space Academy. We got in a fight—" Tom didn't finish the sentence.

"And you were kicked out, eh?"

"No, sir," said Tom. "I hit him so hard—he never woke up again. I had to blast out of there, but they caught me."

"All right," said Coxine. "Report to the gunnery chief. Tell him I said you're second-in-command." The big man turned and walked away from the cadet without another word.

Tom watched him disappear and smiled. He had faced two impossible situations, the fight with Monkey and now this meeting, and he had come out

on top in each. Perhaps he had a chance, after all.

CHAPTER 13

"Any report from the search squadrons yet, Steve?" asked Commander Walters.

"No, sir," replied Captain Strong. "We're concentrating on the asteroid belt, but so far we've drawn a blank."

"Well, keep trying and let me know the minute something turns up," said Walters.

"Yes, sir," said Strong, saluting his commanding officer as the elder spaceman left the room. He turned back to a large desk in the center of the room where Roger Manning was busy noting figures on a large chart, showing the areas already covered and listing the squadrons engaged in the search.

As Strong leaned over his shoulder, Roger placed a finger on the chart. "Squadron Ten has just completed a search of all asteroids in their assigned area," he said, then added laconically, "Nothing."

Strong studied the chart a moment. "Well, we'll have to keep it up," he said. "It's the only way we'll find them. A systematic search of the belt from end one to the other." He paused and then muttered, "Only one thing I'm worried about."

"What's that, sir?" asked Roger.

"That when we do find them, it'll be too late to help Tom."

"You really think he's aboard Coxine's ship, Captain Strong?"

"Couldn't be anywhere else," answered Strong. "And he'll be trying to signal us, you can bet on that. Keep me posted on all radar contacts made by the search squadrons. I want a continuous six-way radar sweep by every ship."

"Yes, sir," said Roger.

"One more thing," said Strong, "tell Astro to get the *Polaris* ready to blast off. And you make sure your radar bridge is in A-one condition."

"Are we blasting off, sir?" asked Roger.

"Every ship we can get into space will give us a better chance of finding Coxine and his crew. Now that we've got the search fully under way there's no need to hang around here any longer."

"Glad to hear it, sir," replied Roger. "I was getting a little itchy to hunt for those crawlers myself. And Astro can hardly keep still."

Strong smiled. "Don't worry, we'll find Tom," he said. "Wherever he is, you can bet he's taking care of himself and doing a good job for the Solar Guard."

Roger's eyes twinkled. "Oh, I wasn't so worried about Tom as I was Astro, sir. He'll be pretty mad if there isn't anything left of Coxine to pay him back for slugging him."

Strong rubbed his head and said grimly, "Astro's not the only one!"

The blond-haired cadet left the room, and Strong wearily turned back to study the chart of the search in the asteroid belt.

Immediately upon arrival at Space Academy, two days before, Strong had been placed in charge of the search by Commander Walters. The attack on the prison asteroid and the escape of the prisoners had created the biggest sensation in his life. From one end of the Solar Alliance to the other, the visunews and the stereos were full of the attack and escape details, with Strong's name appearing often in the headlines and news flashes. To search the asteroid belt had been his suggestion, and while he could offer no proof, he believed the attacking ship had been commanded by Wallace and Simms. Speaking only to Commander Walters, Strong had received permission to combine the search for Wallace and Simms, with the new hunt for Coxine. Strong was convinced that Coxine was behind the activity of Wallace and Simms, from the beginning at the Solar Exposition to the present.

Strong looked at his watch. It was past midnight. He flipped a switch and paged Lieutenant Moore on the central communicators. In a few moments the young officer appeared and saluted smartly.

"Take over here, Moore," said Strong. "I'm going to sack in for a little rest and then take the *Polaris* out. I'll be in constant contact with you and will direct search operations from the *Polaris*. You stand by here and relay all reports. We'll use code 'VISTA' for all contacts."

"Yes, sir," said Moore. "Shall I work up charts like that one?" He pointed to the chart left by Roger.

"Statistics here at the academy will handle that," replied Strong. "Just shoot the information down to them as you receive it. And you'd better get someone else up here to help you. You'll be here a long time."

Moore saluted and Strong walked wearily from the room. There wasn't any need for cleverness now, thought the Solar Guard captain. When we catch Coxine, he'll fight. And when he fights, that will be the end of him!

He went to his quarters and in thirty seconds was asleep.

* * * * *

"Radar bridge to control deck!" A voice crackled over the intercom aboard the newly named pirate ship, *Avenger*. "Hullo, control deck! Come in!"

"Yeah?" roared Bull Coxine. "Whaddya want?"

"Picked up a blip on the radar, Captain," replied the radar officer. "Looks to

me like the jet liner from Mars to Venus."

"Relay the pickup to the control-deck scanner and let me take a look at it," ordered Coxine.

In a moment the big pirate was studying the scanner carefully. Wallace and Simms stood to one side. Coxine turned and looked at them with a hard glint in his eyes. "That's the jet liner, all right!" He rubbed the palms of his huge hands together and smiled thinly. "It looks like we're in business!"

Wallace stepped forward. "You mean, you're going to—?"

"I'll tell you what I mean," snapped Coxine, "when I want you to know it!"

He turned to the intercom and began to bawl orders into the microphone.

"All hands! Stand by your stations for attack!"

There was an answering roar of approval from the crew.

"We're making our first strike, you space crawlers! A jet liner from Mars to Venus. There'll be lots of fancy things aboard her. Things the Solar Guard wouldn't give you on the Rock!"

There was another roar over the loud-speaker.

"But the first man that takes anything but what I tell him will find himself on the wrong end of two big fists!"

"We're closing in, Captain," interrupted the voice from the radar bridge. "The angle of approach is in our favor. I don't think they've seen us yet!"

"Keep watching her, Joe," replied Coxine, and turned to his two henchmen on the control deck. "You, Wallace! Take number-one jet boat. Russell, Stephens, Attardi, and Harris. Each man will take a paralo-ray pistol and rifle. Report to your boat when I give the order."

There was a pause as the men named scurried to their stations. Coxine continued, "The following men will come with me in boat number two. Shelly, Martin, and the Space Kid. The rest of you man the forward and aft blasters. But no one fires until Lieutenant Simms gives the order!"

He turned to Simms and stared at the man coldly. "I'll be in contact with you all the time. You'll fire when I say to fire, and not before. Is that clear?"

Simms nodded.

"Range-fifty thousand yards to liner, Captain!" reported the radar bridge. "I think she's sighted us!"

"Forward turret!" roared Coxine. "Put a blast across her bow just to show how friendly we are!"

"Aye, aye, sir," acknowledged a voice from the gun turret.

In the turret Tom listened to the orders to attack the helpless spaceship with mounting anxiety. If he could only plant the signal on the *Avenger* before going to the liner, he might be able to remain aboard the passenger ship and escape. He was interrupted in his thoughts by a rough voice in back of him.

"Hey, Kid! Space Kid!" yelled Gaillard, the commander of the gun turret. "Come on! You heard the orders, didn't you? Get me the range."

"Right away," answered Tom. He stepped to the range finder, quickly figured the speed of the jet liner, their own speed and the angle of approach.

Racking them up on the electronic tracker, he turned back to Gaillard, "Let her go!"

"Fire!"

There was a thunderous noise and the *Avenger* rocked gently in recoil from the heavy blast. Tom quickly sighted on the range finder and saw a ball of light flash brilliantly in front of the passenger ship. He breathed a sigh of relief. He had to keep up his avowed reputation of being a crack marksman and at the same time could not damage the unarmed passenger ship. The shot had been perfect.

"Good shooting, Kid," roared Coxine from the control deck.

"Thanks, skipper," said Tom, aware that he had not called Coxine captain, but knowing that his earner speech to the giant pirate had earned him a certain amount of respect.

Coxine quickly made contact with the captain of the liner on the teleceiver and the outraged captain's face sharpened into focus on the screen aboard the *Avenger*.

"By the craters of Luna," exploded the skipper of the passenger ship, "what's the meaning of this? There are women and children aboard this vessel."

Coxine smiled thinly. "My name's Bull Coxine, master of the vessel *Avenger*. One funny move out of you and I'll blast your ship into protons! Stand by for a boarding party!"

"Captain! Captain!" the radar operator's voice screamed over the control-deck loud-speaker, "they're trying to send out a signal to the Solar Guard!"

"They are, huh?" roared Coxine. "Forward turret, check in!"

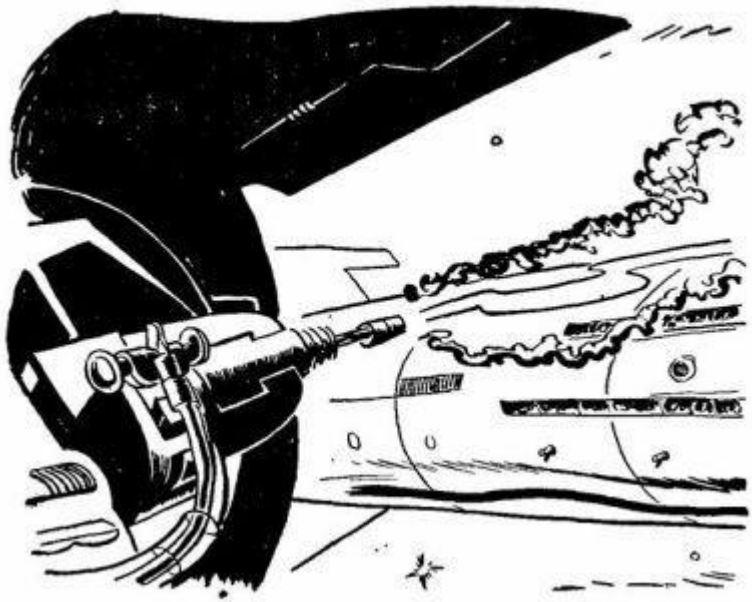
"Turret, aye!" reported Tom. He had been left alone while Gaillard issued small arms to the boarding parties.

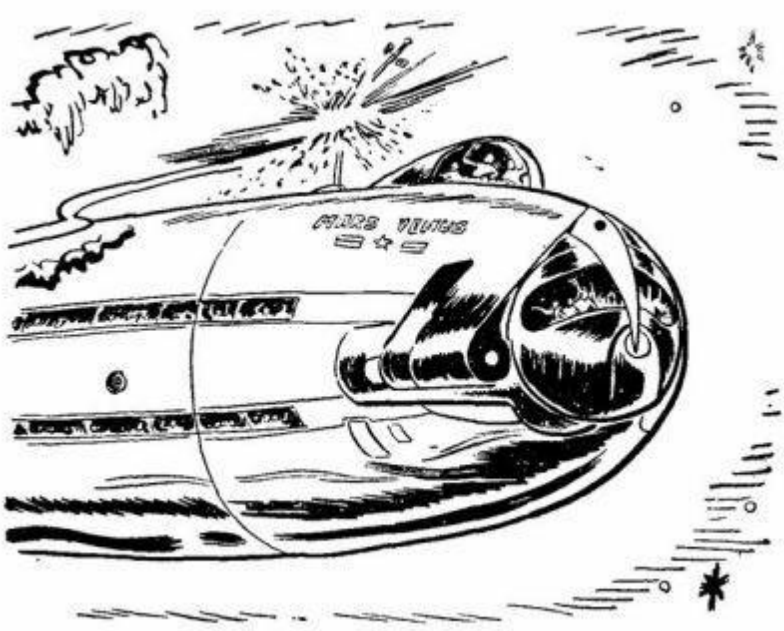
"Listen, Kid!" roared Coxine. "You said you're a good shot. Right now is the time to prove it. Blast away her audio antenna!"

Tom gulped. At a range of fifty thousand yards, the antenna, a thick piece of steel cable, might as well have been a needle to hit.

"Right, skipper," he finally replied. "I'll show you some of the fanciest shooting you'll ever see in your life!"

He turned back to the range finder, his mind racing like a calculating machine. He figured the angles of the two ships, considering that the jet liner was a dead ship in space and the *Avenger* still under way, but slowing down at a specific rate of deceleration. He rechecked his figure a third and fourth time, correcting his calculations each time with the forward movement of the *Avenger*. If he misjudged a fraction of a degree, he might kill or injure hundreds of people aboard the passenger vessel.





"Well?" roared Coxine. "Are you going to fire or not?"

"Coming right up, skipper!" shouted Tom. "Watch this!"

Steeling himself, lest he should hit the ill-fated ship, he fired. For a brief moment he felt sick and then heard the roar of the pirate captain from the control deck.

"By the rings of Saturn," roared Coxine, "that was the best shot I've ever seen! Well done, Kid! All right, boarding crews! Man your boats and stand by to blast off!"

While Coxine vocally lashed the members of the murderous crew into action, Tom tried to figure out some way to get to the radar deck unseen. Being assigned to the jet boat with Coxine, instead of Wallace, had been a lucky break and Tom wished for a little more of the same. Lining up with his boarding crew, he received his paralo-ray pistol and rifle from Gaillard, deftly stealing a second pistol while the gunnery officer's back was turned.

After hurriedly hiding the stolen gun, he slipped stealthily topside to the radar bridge. Reaching the hatch, he was about to open it, when he heard footsteps. He turned and saw a man walking toward him. It was Simms!

"Where in the blasted universe is the jet-boat deck?" snarled Tom. He dropped his rifle on the deck and bent over to pick it up, hiding his face.

"You're on the wrong deck," said Simms. "Two decks below. Get moving!"

The pirate lieutenant hardly gave the cadet a glance as he brushed past and entered the radar bridge. Tom caught a fleeting glimpse of the interior. His heart jumped. The bridge was exactly like the one on the *Polaris*! Though annoyed that his chance had slipped past, Tom was thankful to learn that the communications equipment was thoroughly familiar.

"Space Kid! Report to the jet-boat deck on the double!" Coxine's voice rumbled through the empty passageway. Tom dashed down the nearest ladder and hurried to the jet-boat deck where the pirate captain waited impatiently.

"I was checking the range and setting up to blast the liner in case they try anything funny," explained Tom. "I don't trust anyone on that range finder but me!"

Coxine chuckled. "Good work, Kid. I like a man that thinks ahead. Maybe I made the wrong man gunnery chief." He climbed into the jet boat. "All right, take the controls, Kid. Shelly and Martin, get in the stern." The men climbed in and Tom slid under the controls and waited for the order to blast off.

Wallace and his crew were on the opposite side of the ship, so Tom had no fear of being recognized until they were all on the passenger ship. At his side, Coxine spoke to Wallace in the other jet boat over the audioceiver.

"We'll split up. I'll handle the control deck and you go aft to the supply lockers. Dump everything out in space and we can pick it up later. Search the passengers, but no rough stuff. The first man that puts his hands on anyone will never know what hit him!"

Tom listened to the pirate captain's orders and was forced to give the man credit for his tight control over his murderous crew. However rebellious he

might be against the Solar Guard, and whatever it was that made the man become the system's most notorious criminal, his orders spoke for themselves.

"All right, Kid," roared Coxine, "blast off!"

Tom pressed the control pedal at his foot and the small ship shot out into the black void of space. Ahead of them, thousands of yards away, he could see the gleaming passenger ship.

In a few moments the two jet boats were braking their jets and drifting to a stop inside the catapult deck of the luxurious liner.

Almost before Tom had stopped the small craft, Coxine was out of the boat waving his paralo-ray pistols at a cluster of frightened merchant spacemen.

"Back inside!" he snarled. "Kid! Shelly! Cover me! We're going to the control deck. Martin, you stay here with the jet boat."

Coxine marched straight through the ship, head up, eyes straight ahead, while behind him, Tom and Shelly swept the luxurious lounges with their ray rifles, ready to fire on any who dared resist. They marched past the frightened passengers, climbed a flight of carpeted stairs to the next deck, and entered the control room.

The liner's captain, a tall, thin man with graying hair, stood waiting beside the control panel, his eyes flashing angrily. A half-dozen junior officers stood stiffly in back of him.

Coxine stepped up to the elderly officer and laughed good-naturedly. "No one will be hurt, skipper. I just want a few things for my men"—he paused and glanced at the ship's vault—"and whatever you have in there!"

"I'll live to see the day when you're caught and sent to the prison asteroid for this," snorted the captain.

"Don't make me laugh, skipper," said Coxine lightly. "The Solar Guard will have to build a new one for me. Don't think there's much left of the old one!"

"Then it was you! You're responsible for the attack on the asteroid!"

Coxine just smiled and turned to Tom and Shelly. "Watch these crawlers closely, now. I'm going to open the vault."

Tom stared at the ship's officers, hoping to catch the eye of one of them, but they were all watching Coxine.

The pirate captain pulled a thin rod about two feet long, with a switch on one end, from his jacket. He walked to the solid titanium door of the vault and inserted the rod into a small hole, pressing the switch at the end of the rod carefully several times. He stepped back and inserted it in another hole in the face of the door and repeated the procedure. Putting the key back in his jacket he grabbed the handle of the massive door. It swung open at his touch. The captain of the liner and officers gasped in amazement.

Working quickly, Coxine crammed the thick bundles of credit notes and passenger's valuables into a bag. At last he straightened up, and facing the unbelieving officer again, he tossed them a mocking salute. He nodded to Tom and Shelly and walked out of the control room without another word.

Shelly and Tom quickly followed the giant spaceman back to the jet-boat

deck, where Wallace was just returning from his own operations. Wallace made a circle out of his fingers to Coxine and the giant pirate nodded.

"Let's get out of here!" he ordered.

"Aren't you afraid they'll try to stop you, skipper?" asked Tom.

Coxine laughed. "Just let them try. I never met a man yet that had the nerve to pull the trigger of a paralo-ray gun while my back was turned."

Tom gulped and wondered if he would have the nerve to fire on the spaceman. He thought about it a moment and decided that he would take any chance that came along, if he could outwit the criminal. When the time came, he would risk his life to stop Coxine!

CHAPTER 14

"All right, line up, you space crawlers!" bawled Coxine. "When I call your name step up to get your share of the haul!"

The pirate captain was seated at the head of a long mess table, an open ledger in front of him. There were stacks of crisp new credit notes at his elbow. He took out his paralo-ray pistols and placed them within easy reach. On either side of him, Wallace and Simms sat, staring at the money with greedy eyes.

Coxine looked at the first name on the ledger.

"Joe Brooks!" he called. "One thousand credits for spotting the liner!"

Brooks grinned and amid cheers walked to the table. Coxine handed him a small stack of notes carelessly and turned back to the ledger.

"Gil Attardi!" he roared. "One thousand credits for working on the boarding crew."

Attardi, a sly, scar-faced man, stepped forward to accept his share. He carried a long, thin knife with an edge so deadly keen that he could and often did shave with it.

Coxine continued his roll call. "Sam Bates! Five hundred credits. Straight share."

Bates stepped forward and glared at Coxine.

"How come I only get five hundred and the others get a thousand?" he snarled. "It ain't my fault I'm stuck on the power deck while you grab all the glory jobs!"

The laughing, excited crowd of men grew silent as the rebellious spaceman faced Coxine.

"You get five hundred credits," snarled Coxine. "Take it or leave it!"

"I want the same as Brooks and Attardi," demanded Bates.

Quicker than the eye could follow, Coxine rose and smashed the man in the face with a giant fist. Bates dropped to the deck like a stone. Coxine glared at the rest of the crew.

"The next crawler that thinks he's not getting his fair share," he snarled, "will get a trip in space for his share!" He glanced down at the unconscious man and jerked his thumb toward the hatch. "Get him out of here!"

Two men dragged the unconscious man away and threw a bucket of cold water on him. He woke up, snatched at his share of the credits, and disappeared from the room.

The pirate captain continued reading the list of names, arbitrarily, handing

out various amounts of the stolen money as he saw fit.

Standing in the rear of the messroom, hidden by the other members of the crew, Tom realized that to step in plain sight of Wallace and Simms for his share would mean instant betrayal. He had to make his move now, and with most of the crew mustered together in the messroom, it was his one chance for success.

Gripping the stolen paralo-ray gun in his jacket pocket, he slipped out of the messroom unnoticed and headed for the radar bridge.

As he raced up the companionway he could hear the laughter of the men below decks as one by one they received their shares. His name would be called soon. Heart pounding, he stopped outside the radar hatch, pulled the paralo-ray gun from his jacket, and taking a deep breath opened the hatch.

Joe Brooks was seated in front of the scanner counting his share greedily and glancing occasionally at the finger of light that swept across the green globe. When Tom opened the hatch, he looked up and smiled.

"Hiya, Kid," he said. "Coxine's all right. I got a thousand just for picking up that ship on the radar. How much did you collect?"

"This," said Tom. He shoved the paralo-ray gun into Brooks' stomach. The man gulped and finally found his voice.

"Say, what is this? A gag? Where did you get that paralo-ray?" Then suddenly he shoved the bundle of notes in his pocket. "Oh, no, you don't! You're not going to steal my share!"

"I don't want your money!" said Tom coldly. "Get into that locker and keep your mouth shut, or I'll blast you!"

"Locker? Say, what's the matter with you? You gone space happy?"

"Get in there," growled Tom. At the look on the cadet's face, Brooks rose quickly and stepped into the locker. Tom slammed the door and locked it. Then, locking the passageway hatch, he turned to the radar scanner. Working quickly with deft hands, he opened the casing around the delicate instrument and began disconnecting the major terminals. Studying the complicated tangle of connections, he wished that he had as much knowledge of radar as Roger.

He finally found the wires he wanted and separated them from the other connections. He began replacing them, altering the terminals. After checking his work, to make sure it would not short-circuit, he grabbed the intercom and began taking it apart. Sweat beaded his forehead. Time was short. Soon Coxine would miss him and come looking for him. He had to complete his job before that happened.

After moments that seemed like hours he was ready. Using one of the intercom relays he began tapping out a message in Morse code on an exposed wire from the scanner. He looked at the radar scanner and watched it flash white static lines each time he touched the wires. Carefully he tapped out a message.

"… emergency… attention… Corbett… Space Cadet… aboard… Coxine… pirate… ship… space quadrant… B… section… twenty… three…"

Over and over he repeated the desperate message, hoping against hope that someone would be scanning space and the interference would show up on their radar.

"… emergency… attention… Corbett… Space Cadet—"

* * * * *

"Captain Strong!" Roger's voice came shrieking over the ship's intercom. "Captain! Quick! I'm picking up a message from Tom!"

"What?" cried the Solar Guard officer. "Nail it! I'm coming up!"

Scrambling up the ladder to the radar bridge from the control deck, Captain Strong rushed over to the scanner and watched eagerly as blinking flashes washed out the background of the screen.

Slowly, at times unevenly, the message flashed and the two spacemen read it with gladdening hearts. Strong made a careful note of the position while Roger continued to read the flashes. Turning to the astrogation panel, the Solar Guard captain quickly plotted a course that would bring them to Tom's position.

Endlessly, during the past few days, Strong, Roger, and Astro had swept space in a wide arc around the asteroid belt, hoping to pick up just such a signal. Now, with the position of the *Avenger* in his hands, Strong grabbed for the intercom.

"Attention, power deck!" yelled Strong. "We've just picked up a message from Tom. He's given us his position, so stand by for a course change."

"Yeee-eooow!" roared Astro. "I knew he'd do it."

"He's not in the clear yet. We've only got his position. We don't know how we're going to get him away from Coxine yet."

"Ready to change course, sir," said Astro.

"Three degrees on the down-plane of the ecliptic, and fifty-four degrees to starboard. Full space speed, Astro! Pile it on!"

"Aye, aye, sir!" replied Astro. "I'll make this wagon's tail so hot it'll blast at double speed!"

"You'd better, you Venusian ape!" cried Roger. "It's the least you can do for Tom!"

"Stow it, Manning," growled Astro good-naturedly, "or I'll stick some of your hot air in the jets for extra power!"

"Cut the chatter, both of you!" snapped Strong. "Astro, execute course change!"

Astro's reply was a blast on the steering rockets. On the control deck, Strong watched the needle of the astral compass swing around and stop dead on the course he had ordered.

"All set, Astro!" shouted Strong. "Right on course. Now pile on the neutrons!"

"Aye, aye, sir."

On the power deck, the big cadet turned to his control panel, took a deep breath, and opened the reactant feeders wide. The ship leaped through the airless void under the sudden burst of power and Astro watched the acceleration indicator climb to the danger line. He gulped as the needle passed the danger point and was about to cut down speed when the needle stopped. Astro breathed easily and settled back satisfied. If it was up to him, they would reach Tom in record time.

Up on the radar deck, Roger continued to read the flashing signals on the radar scanner. Over and over, he read the same message.

"I guess that's all he can say, sir," said Roger, turning to Strong.

"Yes, I guess so, Roger," agreed Strong. "He's probably sending it out blind, on an open circuit, hoping that anyone near enough would pick it up. Wonder how he did it?"

Roger thought a moment. "I'm not sure, sir, but I think he's crossed the impulse on the scanner from positive to negative."

"How do you mean?" asked Strong. The young captain was well acquainted with the principle of radar but, admittedly, could not match Roger's natural ability.

"By making the impulse negative, sir," said Roger, "he could create interference on the scanner. Instead of bouncing against something and returning an image to a scanner, the impulse hits itself and creates static which shows up in the form of those white flashes."

"Well, in any case," said Strong with a sober nod toward the scanner, "he's done something the whole Solar Guard couldn't do. He's quite a boy!"

Roger smiled. "I'll say he is, skipper!"

Strong turned away and climbed down to the control deck. He sat in front of the great control panel and watched the countless dials and needles. But his mind wasn't on the delicate handling of the great ship. He was thinking about Tom, alone aboard a ship with a crew of desperate criminals.

Tom had taken his life in his hands to send out the message, that much Strong was sure of! And the young skipper noted with pride that there was no appeal for help in the desperate call.

He shook his head wearily and flipped the teleceiver switch to report to Commander Walters.

* * * * *

"Emergency… attention…" Tom continued to tap out the message slowly

and carefully. Behind him, he could hear Brooks hammering against the locker door. Tom felt like opening the door and freezing the pirate with his paralo-ray gun to keep him quiet, but he didn't dare to stop sending.

Finally Tom decided it was time to go. "If anyone's going to pick up the message," he thought, "they've picked it up by now. I may still have time to get away in a jet boat."

He tied the wires together, causing a continuous interference to be sent out, and secured the radar casing. "If I'm lucky enough to get away in a jet boat," thought Tom, "at least they won't be able to pick me up on that!"

Without a glance at the locker where Brooks continued to pound and yell, Tom turned to the hatch leading to the passageway. He gripped the paralo-ray gun and opened the hatch. Peering into the passageway and finding it deserted, he slipped out and closed the hatch behind him. From below, he could hear the roar of the crew as the last of them received his share of the stolen credits.

Tom raced down the companionway toward the jet-boat deck. He made the first deck safely and was about to climb down to the next when he was spotted by Attardi, the scar-faced spaceman, who stood at the bottom of the ladder.

"Hey, Kid!" Attardi shouted. "The skipper's been looking for ya. You got the biggest cut. Three thousand credits for that fancy shooting you did!"

Tom noticed the gleam of the knife at the man's side. The young cadet could imagine the criminal sinking the knife in his back without hesitation, if he suspected anything.

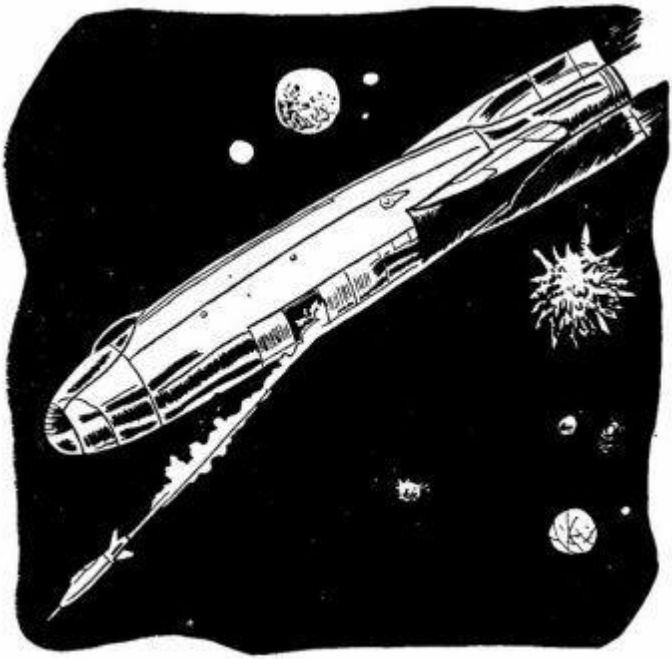
"Well," demanded Attardi, "are you going to collect or not? The skipper sent me to look for you."

Tom smiled, and while still smiling, whipped the paralo-ray gun into sight and fired. His aim was true. Attardi froze, every nerve in his body paralyzed. He could still breathe and his heart continued to beat, but otherwise, he was a living statue, unable to even blink his eyes.

Tom jumped past the spaceman and dashed for the jet-boat deck. He had to hurry now. Attardi would be discovered any moment and be neutralized. When neutralized, the victim returned to normal, with only violent muscle soreness remaining.

Tom reached the jet-boat deck, opened the hatch, and raced for the nearest small craft. Suddenly from behind he could hear the buzz of a paralo-ray on neutralizing charge. Attardi had been discovered.

Tom jumped into the nearest jet boat, closed the hatch, and pressed the button releasing the sliding side of the ship's hull. Slowly, the great wall of metal slid back exposing the cold black velvet of deep space. As soon as the opening was wide enough, Tom pressed the acceleration lever and the small ship shot out, its jets roaring.



Tom quickly glanced around to locate his position by the stars and saw that he was close to the asteroid belt. He opened up to full acceleration, and since there was nothing else to do but wait for time to pass and hope for escape, he began to examine the contents of the small ship. He opened the emergency food locker and was relieved to see it fully stocked with synthetics and water. Every second carried him farther away from the *Avenger*, and when he looked back, Tom saw no evidence of pursuit. The cadet smiled. They would depend on the radar to find him, instead of sending out the other jet boats. Tom almost laughed out loud. With the radar jammed, he was safe. He would make it. Once inside the asteroids, they would never find him.

Glancing around the few indicators on the control board of the small vessel, Tom's smile changed to a grimace of sudden terror. The jet boat had not been refueled after their raid on the jet liner. There was less than three days' oxygen remaining in the tanks. In three days the jet boat would become an airless shell. A vacuum no different than the cold silent void of space!

CHAPTER 15

"What's our position, Roger?" Captain Strong called into the intercom.

"Space quadrant B, section twenty-three, sir," replied Roger from the radar bridge. "But I can't see a thing on the radar. That static flash Tom sent out is scrambling everything."

"But you're sure this is our position?"

"Yes, sir. I checked it three times."

"All right, then," said Strong grimly. "There's only one thing to do. We're too near the asteroid belt to use the *Polaris* without radar, so we'll search in jet boats. Astro! We're parking right here! Give me full braking rockets and secure the power deck. Then prepare the jet boats for flight."

"Aye, aye, sir," came the reply from the Venusian.

The ship bucked under the tremendous power of the braking rockets and came to a dead stop in space. Strong dashed up the ladder to the radar bridge where Roger was still hunched before the radar scanner.

"Any chance of switching the scanner to another frequency and offsetting the effects of the static, Roger?" asked the Solar Guard captain.

Roger shook his head. "I don't think so, sir. The interference would have to be eliminated at its source."

"Well," sighed Strong, "to go looking for Tom without the help of radar would be like looking for an air bubble in the ammonia clouds of Jupiter. And we don't even know if he's still aboard the *Avenger* or not!"

"You know, sir," said Roger speculatively, "I've been thinking. I might be able to get a fix on this interference."

"A fix? How?"

"By blanking out the radar range, so that it would only work at one point of the compass at one time, then testing each heading separately until the flash appears. When it does, we'd at least know in which direction to blast off and trail Coxine.

"If you can do that, Roger," exclaimed Strong, "it would take us right into Coxine's lap! Do you think you can work it?"

"I can try, sir."

"All right, then," decided Strong. "Astro and I will take the jet boats and go looking around. Meantime, you stay aboard and try to pin point the heading on that flash."

"Very well, sir," replied Roger, and turned to the radar to begin the

complicated task of rewiring the instrument.

Strong went directly to the jet-boat deck where Astro was busily preparing the jet boats for flight. He looked up when Strong entered the hatch.

"All ready, sir," he said.

"Very well," said Strong. "I'll take number one, you take number two. We're in section twenty-three of quadrant B. You take section twenty-two and I'll take twenty-four."

"Yes, sir," replied Astro. "Do you think there's any chance of finding Tom?"

"I don't even know if he's out here, Astro. But we can't be sure he isn't. So we'll search and hope for the best."

"Very well, sir."

"Keep your jet-boat audioceiver open all the time and maintain contact with me."

"Why not contact Roger here on the *Polaris*, sir?" asked Astro.

"He's busy trying to find out where the flashing static on the radar is coming from," explained Strong. "We'll make wide circles, starting outside and working in. Blast in a continuous circle inward, like a spiral. If there's anything around here, we'll find it that way."

"Yes, sir," said Astro. "I sure hope Tom is O.K."

"Best answer I can give you. Astro, is to blast off and find out."

The two spacemen climbed into the small craft, and while Strong opened the outer lock, exposing them to the emptiness of space, Astro started the jets in his boat. With a wave of his hand to Strong, he roared away from the sleek rocket cruiser. Strong followed right on his tail. They circled the *Polaris* twice, establishing their positions, and then roared away from each other to begin their search.

Astro turned his midget space vessel toward the asteroid belt, ahead and below him. Choosing a large asteroid that he estimated to be on the outer edge of section twenty-two, he roared full power toward it. The tiny space bodies that made up the dangerous path around the sun, between Mars and Jupiter, loomed ahead ominously. Moving toward them under full rocket thrust, the Venusian cadet remembered fleetingly stories of survivors of space wrecks, reaching the airless little planetoids, only to die when help failed to arrive. He shuddered at the thought of Tom, a helpless castaway on one of the asteroids, waiting to be saved. Astro clenched his teeth and concentrated on the search, determined to investigate every stone large enough to support an Earthman.

Miles away, no longer visible to Astro and out of sight of the giant rocket cruiser, Captain Strong felt the same helplessness as he approached the asteroid belt from a different angle. He realized any number of things could have happened on the pirate-ship. Tom could have been captured, or if not yet discovered, unable to escape from the ship. Strong's throat choked up with fierce pride over the gallant effort Tom had made to warn the Solar Guard of the *Avenger's* position.

As he neared the outer edges of the belt, he concentrated on guiding his small ship in and around the drifting asteroids, his eyes constantly sweeping the area around him for some sign of a drifting space-suited figure. What Strong really hoped for was the sight of a jet boat, since in a jet boat, Tom would have a better chance of survival.

The young captain reached the outer edge of his search perimeter, turned the small ship into a long-sweeping curve, and flipped on the audioceiver.

"Attention! Attention! Jet boat one to jet boat two! Come in, Astro!"

Across the wide abyss of space that separated the two men, Astro heard his skipper's voice crackle in his headphones.

"Astro here, sir," he replied.

"I'm beginning my sweep, Astro. Any luck?"

"Not a thing, sir."

"All right. Let's go, and keep a sharp eye out."

"Aye, aye, sir," replied Astro. He could not keep the worry out of his voice, and Strong, many miles away, nodded in silent agreement with Astro's feelings.

* * * * *

The *Avenger* had long since disappeared and Tom was left alone in space in the tiny jet boat. To conserve his oxygen supply, the curly-haired cadet had set the controls of his boat on a steady orbit around one of the larger asteroids and lay down quietly on the deck. One of the first lessons he had learned at Space Academy was, during an emergency in space when oxygen was low, to lie down and breath as slowly as possible. And, if possible, to go to sleep. Sleep, under such conditions, served two purposes. While relaxed in sleep, the body used less oxygen and should help fail to arrive, the victim would slip into a suffocating unconsciousness, not knowing if and when death took the place of life.

Tom lay on the deck of the small vessel and stared at the distant stars through the clear crystal roof of his jet boat. He breathed as lightly as he could, taking short, slight breaths, holding them as long as he could and then exhaling only when his lungs felt as if they would burst. He could see Regulus overhead, and Sirius, the two great stars shining brilliantly in the absolute blackness of space. He raised himself slowly on one elbow and looked at the oxygen indicator. He saw that the needle had dropped past the empty mark. He knew it wouldn't be long now. And he knew what he had to do. He took a last long look at the two giant stars, and then closed his eyes.

Tom no longer tried to control his breathing, but took deep satisfying lungfuls of oxygen and in a few moments slipped into a sound sleep.

The jet boat roared on, carrying its sleeping occupant in an endless spiral around the nameless asteroid.

Not too many miles away, alone on the radar bridge of the giant rocket cruiser, Roger Manning, sweat popping out on his forehead, was trying the radar scanner on the three-hundred-and-tenth point on the compass. He connected the wires, glanced at the scanner, and shook his head disgustedly. The scanner screen was still dark. Having adjusted the delicate mechanism to eliminate the white flashes of static, he couldn't find them again. He sat back in his chair for a moment, mopping his brow and watching the white hairline in its continuous swing around the face of the scope. As the line swept to the

top of the screen, he saw the blip outline of a jet boat and recognized it as one belonging to the *Polaris*. Then, slowly, the line swept down and Roger suddenly saw the blip outline of a second craft. With the experienced eye of a radar veteran, Roger was able not only to distinguish the jet boats from the asteroids, but from each other. He gripped the edge of the instrument and shouted at the top of his voice. The second boat was a different model!

He reached for the audioceiver and switched it on.

"Attention! Attention! Captain Strong! Astro! Come in! This is Manning aboard the *Polaris*! Come in!"

Strong and Astro replied almost together.

"Strong here!"

"Astro here!"

"I've spotted a jet boat!" Roger shouted. "You think it might be—"

"Where?" bawled Astro before Roger could finish. "Where is it, you rockethead?"

"As close as I can figure it, he's circling an asteroid, a big one, at the intersection of sections twenty-one and twenty-two!"

"Twenty-one and twenty-two! Got it!" yelled Astro.

"I'll meet you there, Astro!" said Strong.

Astro and Strong turned their small ships in the direction of the intersecting space sections. Astro was the first to spot the asteroid, but for a moment he couldn't see the jet boat on the opposite side of the small celestial body. Meanwhile, Strong, coming from the other direction, saw the boat and relayed the position to Astro. In a few moments the two space craft had regulated their speeds to that of Tom's ship and were hastily donning space suits. A quick look inside had shown them Tom's sleeping body. As Astro started to open the crystal hatch of his ship to cross over to the other, Strong yelled over the audioceiver.

"Astro, wait!"

Astro looked across at the captain's ship questioningly.

"Tom isn't in a space suit. If we open the hatch it would kill him. We've got to tow him back to the *Polaris* and get his boat inside the air lock before we can open the hatch!"

Without a word, Astro nodded, ducked inside his ship, and climbed out again with a length of rope. Working quickly, he tied one end securely to the bow of Tom's jet boat and made the other end fast to the stern of his. Then returning to his cockpit, he sent the jet boat hurtling back toward the *Polaris*.

But he was still faced with the problem of getting Tom's jet boat inside the air lock. It was still under acceleration and there was no way to get inside to stop its jet motors. Astro called to Strong and explained the situation to him.

"Looks like the only thing we can do, sir, is keep going until it runs out of fuel."

"That might take too long, Astro," replied Strong. "No telling how much oxygen Tom has left."

"There's nothing else we can do, sir," replied Astro. "We can't brake her to land inside the *Polaris* and we can't open the hatch to turn off the motor. We'll have to take a chance on Tom lasting until it runs out of fuel!"

Inside the roaring craft, Tom suddenly opened his eyes. He began to cough. There was a roaring in his ears. The stars overhead swam dizzily. And then, as though through a billowing mist, he saw the jet boat ahead of him and the rope tied to his ship. He realized he had been rescued. He tried to signal them. He had to let them know he needed oxygen. He tried to reach the communicator near the control panel but could not lift his arm. He fell back to the deck gasping for air; his lungs screaming for oxygen. Something, thought Tom through the haze that fogged his brain, something to signal them. Then, with the last of his strength, he raised up on one elbow and reached for the acceleration lever. His fingers trembled a few inches away from their goal. His face began to turn violent red. He strained a little more. The lever was an inch away. Finally, with the very last ounce of his strength, he touched the lever and pulled it back by the weight of his falling body.

Even before the black cloud swept over him, Tom could hear the jets become silent. He had signaled them. He had stopped the jet boat. They would know, now, how to save him.

CHAPTER 16

"… and you never picked up that static flash again, eh?" mused Strong, looking at Roger. "Well, the only reason I can think of is that someone aboard the *Avenger* must have discovered what was happening."

"That's the way I figure it, sir," replied Roger.

The Solar Guard captain studied the scanner that was now working in perfect order. "It's a tough break that we couldn't get that fix on Coxine's position. I was counting on it. But at least we found Tom. That's plenty to be thankful for."

"How is he, sir?" asked Roger.

"He'll be all right," replied the Solar Guard captain, his face showing the strain of the past weeks. "We gave him pure oxygen and he came to long enough to tell us what happened aboard the *Avenger*. Get me teleceiver contact with Space Academy as soon as possible. I've got to send a report to Commander Walters."

"Right, sir."

"You've done a good job, Manning. Your work here on the radar bridge did as much toward saving Tom's life as anything."

"Thank you, sir. After what Tom did on the *Avenger*, though, I don't feel like I've done very much. It took real courage to go aboard that ship with Coxine."

Strong smiled wearily. "Well, the boy is safe now and we have a good idea what part of the belt Coxine is operating in. With a little luck and a thorough fleet patrol, we might be able to get him before he can do any more harm."

Strong went below to the cadet's quarters where Astro was sitting quietly, watching Tom. The cadet was sound asleep. When Strong entered, Astro held a finger to his lips and met the captain at the door.

"How is he?" whispered Strong.

"He's been sleeping since he spoke to you, sir," said Astro. "He's pretty weak, but I don't think there's anything seriously wrong with him. After a good rest, he'll be as good as new."

"Thank the universe for that," breathed Strong. He glanced at the sleeping cadet and then turned back to Astro. "Better take your station. He'll be all right now. I want to get back to the Academy as soon as I can."

"Yes, sir."

"Attention, Captain Strong," Roger's voice crackled over the intercom loudspeaker. "I've made contact with Commander Walters at Space Academy, sir.

He's standing by for your report."

Strong returned to the control deck where he saw the sharp image of the Space Academy commander waiting on the teleceiver screen.

He told the grim-faced senior officer of discovering the static Morse code flashes sent out by Tom from the Avenger and the race to save Tom's life. When he finished, the commander's face seemed to relax.

"When Corbett wakes up, give him my personal congratulations, Steve. That goes for Astro, Roger, and yourself, as well."

"Thank you, sir," said Strong. "Since Coxine seems to be operating exclusively out of the asteroid belt, I think it would be a good idea to concentrate the entire fleet of patrol ships in that area."

"Good idea! I'll set it up. But get back here as soon as possible, Steve. Coxine and that crew on the *Avenger* aren't sitting still."

"What do you mean, sir?"

"In the last three days we've had reports from seven ships. Jet liners, passenger freighters, and supply ships. All were attacked by the *Avenger* and stripped of everything those criminals could load on their murderous backs. Blasters, paralo-ray guns, whole and synthetic foodstuffs, clothes, money, jewels, equipment. Everything under the stars that they could use. Any ship that even comes close to the asteroid belt between Mars and Jupiter, unless escorted, is a dead space bird. And if we did provide an escort, we wouldn't have enough ships left to carry on the search."

Strong listened to the news with rising anger.

"I'll blast back to the Academy as soon as I can, sir," said Strong.

"Fine!" said the commander. "End transmission!"

"End transmission!"

Strong turned off the teleceiver and called Roger onto the radar bridge.

"Have you got a course back to the Academy, Roger?"

"Yes, sir."

"All right, give it to Astro and let's get moving. Every minute wasted now is the difference between a ship looted and the future safety of the space lanes. I have a feeling that Coxine is not just playing for the hauls he makes on those helpless jet liners."

"I don't get you, sir."

"Look at it this way, Roger," replied Strong with a grim smile. "A man smart enough to do what he did while he was confined to a prison asteroid might have bigger ideas now that he's free. Ideas about himself and the whole Solar Alliance!"

During the weeks following, the activity of Bull Coxine and his pirate crew justified Captain Strong's fears. Repeatedly, ships were attacked on the fringe of the asteroid belt and stripped of armor, food supplies, and valuables. With the secret of the light-key, the vaults of the ships were opened as easily as though there had been no lock at all. The totals had reached staggering amounts and the daring of the *Avenger* was more pronounced, as Coxine

struck repeatedly, farther and farther away from the protection of the asteroid belt. It seemed as though he were taunting the Solar Guard with his exploits.

All defense measures seemed to be futile. When the space freighters and jet liners were armed and tried to resist attack, Coxine blasted them into helpless space junk at a frightful cost of life. When the ships were escorted by powerful rocket cruisers, the pirate refused to attack, but the search squadrons were correspondingly depleted. The combinations of the energy locks were changed every day, but with the adjustable light-key, Coxine met every change easily. The entire Solar Alliance was in an uproar, and the citizens of the planets were clamoring for action.

All Solar Guard defense measures seemed to be futile

All Solar Guard defense measures seemed to be futile

Finally, the commanding officers of the Solar Guard noticed a change in Coxine's operations. Instead of merely attacking spaceships and hijacking their cargoes, he now took over the vessel completely, sending the passengers and crews drifting helplessly in space in jet boats. Three large, fast space freighters of the same class as the *Avenger* were now in the pirates' hands.

Then, one morning, in his headquarters at Space Academy, Captain Strong received an electrifying report. Coxine had attacked a freighter escorted by a Solar Guard rocket scout. Outgunned, the scout had been destroyed, but it had inflicted damage on the *Avenger*. The last report from a dying communications officer on the scout was that the pirate ship was drifting helplessly in space!

Strong, his face showing hope for the first time in weeks, burned the teleceivers, flashing orders to the various elements of the search fleet to converge on the disabled *Avenger*.

"Attention! All ships in quadrants C through M and Q through B-l! Proceed full thrust to quadrant A-2, section fifty-nine. On approaching target you will signal standard surrender message, and if not obeyed, you will open fire!"

Behind him, the three cadets of the *Polaris* unit listened to the decisive words of their commander and then let out an earsplitting yell.

"No time for celebrating," barked Strong. "We haven't caught him yet. He's the slickest thing to hit this system since the reptiles climbed out of the Venusian mud! It's going to be a case of our getting him before he can disappear into the asteroid belt, so let's hit the high, wide, and deep!"

Five minutes later, Strong and the boys were aboard their ship.

"Ready to blast off, sir," reported Tom. The curly-haired cadet's face was still pale and drawn, showing the effects of his ordeal in space.

"Get me direct teleceiver contact with Captain Randolph on the rocket cruiser *Sirius*," ordered Strong.

"Yes, sir," replied Tom. He turned to flip on the teleceiver, and a moment later the captain's face appeared on the screen.

"Randolph here. What's up, Steve?"

"I've got Squadron Nineteen of the Martian reserve fleet heading for the last reported position of the *Avenger* now, Randy. I'll take the point position of your squadron and direct operations. I'll relay course to you as soon as we're in space."

"O.K., Steve," replied Randolph. "I'm ready to raise ship."

"I'll go up first. Form up around me at about five thousand miles. End transmission!"

"End transmission!"

"All right, Tom," ordered Strong, "let's get out of here!"

The young cadet strapped himself into his acceleration chair, then picked up the control panel intercom and began calling out orders crisply.

"Stand by to raise ship! All stations check in!"

"Power deck standing by!" replied Astro from below.

"Radar bridge standing by!" acknowledged Roger over the intercom.

"Energize the cooling pumps!"

The whine of the mighty pumps began to fill the ship almost as quickly as Astro acknowledged the order.

"Feed reactant!" snapped Strong, strapping himself in beside Tom.

A low-muted hiss joined the sound of the whining pumps as Tom opened the valves. "Reactant feeding at D-9 rate, sir," he reported.

"Roger," called Strong into the intercom, "do we have a clear trajectory?"

"Clear as space, skipper!" was Roger's breezy answer.

"All right, Tom," said Strong, "cut in take-off gyros."

The cadet closed the master switch on the control panel and the noise from the power deck below began to build to an unbearable crescendo!

Watching the sweeping second hand of the chronometer, Tom called out, "Blast off minus five—four—three—two—one—*zero*!"

With a mighty roar, all main rockets of the spaceship exploded into life. Shuddering under the sudden surge of power, the ship rose from the ground, accelerated at the rate of seven miles per second, and arrowed into the sky, space-borne!

On the Academy spaceport, ships of Squadron L began to blast off one by one behind the *Polaris* at ten-second intervals. Three rocket cruisers, six destroyers, and twelve rocket scouts. The explosive blast of one hardly rolling away across the surrounding hills before another deafening blast lifted the next space vessel away from Earth.

Aboard the *Polaris*, Roger was busy over the chart table plotting the course when Strong appeared at his side.

"Have that course for you in a minute, sir," said Roger. He turned to the astrogation prism and made careful observations of Regulus, the fixed star always used in astrogation. He jotted several numbers down on a piece of paper, rechecked them against a table of relative values and handed the papers to Strong.

The captain immediately opened the teleceiver and relayed the information to other ships of the squadron. After the *Polaris* had made the course change, the ships followed, taking positions all around the lead vessel.

Like fingers of a giant hand, the Solar Guard squadrons converged on the reported position of the disabled *Avenger*. From every ship, radar scanners probed the space ahead with invisible electronic fingers for contact with the target. On the *Polaris*, Strong, his nimble brain figuring Coxine's possibilities of escape, hunched over the chart table and worked at plotting alternate courses on which he could send pursuit squadrons on a moment's notice. One thing worried Strong, and that was if Coxine should repair his ship and make the security of the asteroid belt before they could reach him, it would be almost impossible to track him through that tortuous maze of space junk.

Squadron Ten was the first to sight the enemy spaceship, though it was too far away to attack. The commander reported his finding to Strong immediately.

"We still have quite a way to go before we reach him, Strong. But if our luck holds out, we might be able to pin him down in a wide circle."

Strong studied the chart and marked the position of the *Avenger* just reported. He compared the position to that of the other fleet ships and decided that they were still too far away to tighten a ring of armor around the pirate. Strong was well aware that if the Solar Guard could spot Coxine, he in turn could spot them. Luck, mused Strong to himself, was what they needed now. A little luck to keep the pirate from repairing his ship and disappearing into the asteroid belt. He grabbed the intercom and bawled orders.

"Power deck, emergency space speed. Control deck, relay that order to every ship converging on the *Avenger's* position!"

"What's up, sir?" asked Tom from below.

"One of the ships has spotted Coxine. He's apparently still out of commission, but we're too far away to hail him."

Strong began to pace the deck of the radar bridge, and with each turn, he glanced at the radar scanner where Roger was waiting anxiously for the telltale blip of the *Avenger* to appear.

Suddenly the blond-haired cadet stiffened. He peered at the scanner screen, then cried, "There he is, sir!" His finger pointed to a white outline on the scanner.

Strong took a quick look at the pirate's position and compared it to the positions of the converging fleet. He turned to the teleceiver and signaled for the immediate attention of all ships.

"This is Strong aboard the flagship *Polaris*! All ships will proceed according to attack plan seventeen—code nine. Use full power! Emergency thrust!"

As the minutes passed and the Solar Guard fleet plunged forward, the ships forged a solid wall of guns around the drifting pirate vessel. From above, below, and almost every compass point on the plan of the ecliptic, they closed in, deadly blasters aimed, gunners ready to fire.

"We've got him, sir!" breathed Roger. "He can't escape now! Not in a million light years!"

Captain Strong didn't reply. Eyes were glued to the scanner, watching the target and the Solar Guard squadrons, searching for every possible loophole in the trap. Suddenly he spoke into the teleceiver.

"Attention all ships! Maintain present range, reduce speed, and take englobement formation!"

In reply, the elements of the fleet smoothly reformed until they formed a giant wheel in space with the pirate ship as the hub. Around and around they flew, all inboard guns trained on the enemy.

As the command ship, the *Polaris* flew high over the formation. Strong

checked the formation carefully on the scanner and nodded his satisfaction.

"I think we've done it now, Manning," he sighed. "Coxine doesn't have a chance of breaking through."

Roger looked unhappy. "Ah, it was too easy, sir," he grumbled. "I was counting on having some fun."

"After all these weeks of heartache, I'll skip the fun if you don't mind," said Strong wryly and turned to the intercom. "Tom, check in!"

"Aye, aye, sir!"

"Head for the *Avenger*. Close in!"

"You mean we're going to lead the attack, sir?" Tom shouted in a sudden burst of enthusiasm.

"From the looks of things, I don't believe an attack will be necessary," replied Strong. "We're going alongside to accept Coxine's surrender. Start blasting!"

"Aye, aye, *sir*!"

As Tom's voice was heard over the intercom speaker, issuing orders to Astro for change of course, Strong turned back to Roger.

"Open up the audioceiver to all-wave transmission!"

"You going to talk to Coxine, sir?"

"Yes. And I hope he'll listen. If he doesn't, I'll do my talking with six-inch blasters!"

Roger quickly adjusted the settings on the audioceiver and then turned to his skipper.

"She's all yours, sir. Give it to him good!"

Strong smiled thinly and picked up the microphone.

"Attention, Bull Coxine! Attention, Bull Coxine!" Strong's voice was cold and hard. "This is Captain Strong of the Solar Guard! You're surrounded. You haven't a chance of escape. I demand your unconditional surrender! Acknowledge immediately!"

Strong flipped the key to open the receiver and waited for the reply. Roger moved closer, his eyes glued to the image of the pirate ship looming larger and larger on the scanner.

Fifteen seconds passed. Thirty. There was no sound over the receiver. Sweat began to bead Strong's forehead and he opened the transmitter key again.

"Listen, Coxine! I know you can hear me! I'll only talk to you once more! Surrender or you'll be blasted into protons! I'll give you exactly thirty seconds to make up your mind!"

Again Strong opened the receiver key and waited, but as the seconds ticked by, there was no answer.

"Sir, do you think he's sucking us into a trap?" Roger whispered.

"Maybe," replied Strong grimly. "But he knows what would happen to him if he opened fire."

"Captain Strong! Captain Strong!" Tom's voice suddenly blared over the

ship's intercom.

"Don't bother me now, Corbett," replied Strong irritably.

"But, sir," Tom persisted, "that isn't the *Avenger*!"

"What!" Strong was thunderstruck.

"No, sir," continued the young cadet. "I'm looking at her right now on my control-deck scanner. It's the same model ship as the *Avenger*, but it isn't Coxine's!"

"Are you sure?"

"Positive, sir. I was on her long enough to know."

"Blast it! Then what—?"

Roger suddenly interrupted Strong. "Sir, look at her over the magnascope! She's been abandoned!"

The Solar Guard captain quickly turned to the magnascope screen. There he saw a close-up view of the target. It was a helpless derelict. All emergency ports were open and the jet-boat locks were empty.

Strong's face grew pale and he slumped back in his chair.

"What—what do you suppose happened, sir?" asked Roger hesitantly.

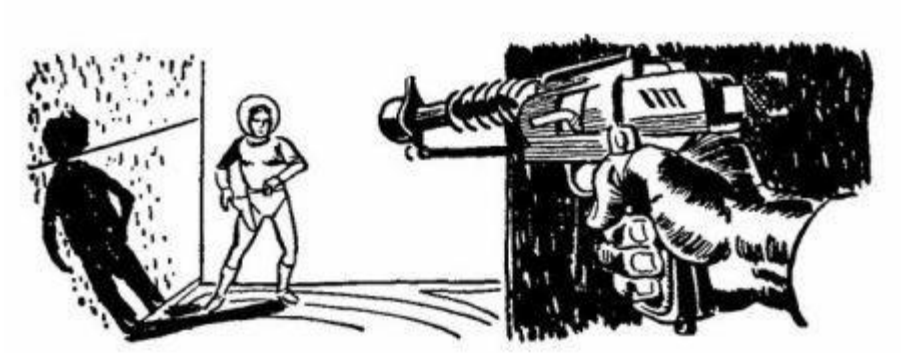
"It's easy enough to figure," Strong replied, his voice dull and lifeless.

"Coxine is using more than one ship now. And when this one was damaged, he simply transferred to another one. He's outfoxed us again!"

Slowly, with wooden legs, he walked over to the teleceiver.

"Attention all ships! Resume former search stations. All we've caught here is a red herring!"

And as the powerful engines of the *Polaris* picked up speed, Strong imagined he could hear Gargantuan laughter echoing in space around him.



CHAPTER 17

"Spaceman's luck, sir," said Tom, shaking Captain Strong's hand.

Silently the other two cadets in turn gripped their skipper's hand tightly.

"Thanks, boys," said Strong. "If we're going to get that space crawler, we have to trap him. And the best bait I know is a twenty-million-credit pay roll."

"But won't you take at least one man with you, sir?" pleaded Tom. "Sitting up there in space in a decoy ship waiting for Coxine is like—" Tom paused. "Well, you won't have much of a chance, sir, if Coxine opens fire before asking questions."

"That's the risk I've got to take, Tom," said Strong. "It took a lot of talking to get Commander Walters' permission to try this. But we've got to force Coxine to come out far enough from the asteroid belt to catch him before he can run back in and lose himself again." The young captain smiled wanly and added, "Don't think that your job is unimportant!"

Tom, Roger, and Astro nodded. On their return from the unsuccessful attempt to capture Coxine, they had been suddenly faced with the routine duty of transporting a twenty-million-credit pay roll from Atom City to the satellite of Titan for the crystal miners.

Thinking one sure way to catch any rat was to use a lure, Tom suggested that the Titan armored freighter be used as a decoy to capture the pirate, and the cadets could carry the pay roll in the *Polaris*.

Commander Walters had considered the plan, and then realizing that Coxine might fire on the freighter before seizing it, disapproved of placing a full crew aboard the lightly armed ship. Instead, he would send only one man. Strong had volunteered for the assignment and had persuaded the commander to allow him to man the decoy ship.

Now, the two ships, the *Polaris* and the armed freighter stood side by side at the Academy spaceport, and the three cadets and their commanding officer waited for the signal to blast off.

"You have your course for your trip out to Titan, Tom?" asked Strong.

"Yes, sir," replied Tom. "We're to blast off later to-night and take a course through the asteroid belt, traveling on the plane of the ecliptic. As soon as we get through, we are to proceed under full emergency thrust to our destination."

Strong nodded his head, satisfied.

"Do you think Coxine will come out after you, sir?" asked Roger.

"We've tried to make sure that he will, Roger," replied Strong. "It's pretty common knowledge that the Titan pay-roll ship leaves every month, and that

it travels a different route each time. Sometimes it goes through the asteroid belt on the plane of the ecliptic and sometimes it goes over. We believe Coxine knows this, and with the thinly guised messages we've sent to Titan, we're hoping he'll try for it."

"But how will you get him, sir?" asked Astro, puzzled. "I mean, with no armor on the freighter to speak of, and no crew aboard, how can you nail him before he gets you?"

"Hyperdrive," replied the captain laconically.

"Hyperdrive?" echoed Tom quizzically.

"I'm going to take the decoy ship through the asteroid belt too, but through a different area, closer to the part we think Coxine is operating in. Seven full squadrons have blasted off ahead of me and taken up positions in that area. When and if Coxine attacks, I'll alert the waiting ships, who'll come in on hyperdrive. By the time Coxine spots them on his radar, they'll be on top of him."

"Then," ventured Tom, "you're staking your life on the ships arriving before Coxine can attack."

"That's right, Tom," said Strong. "If our plan works, we catch Coxine. If it doesn't, at least we know that the Titan pay roll is safe. That's why your job is as important as mine."

They were interrupted by the ground-crew chief who reported the decoy ship ready to blast off.

Strong nodded and the three cadets gripped their captain's hand again. Turning, he climbed into the freighter and five minutes later the Solar Guard officer blasted off from the Academy spaceport while Tom, Roger, and Astro watched from the traffic-control tower.

"Come on," said Tom. "It'll be two hours before we can blast off. We might as well get some sleep. We'll need it."

Reluctantly, Roger and Astro followed their unit-mate from the traffic tower, their eyes full of concern for their skipper. Each was grimly aware that they might never see their skipper alive again.

* * * * *

"Now shut your traps!" roared Bull Coxine. "The next crawler that opens his mouth gets taken apart!" He stood on top of a table and faced his crew of pirates who were sitting about swilling large cups of rocket juice.

The room in which the giant pirate spaceman had gathered his men was one of many in a building constructed since their arrival from the prison asteroid. Hidden from even the closest inspection by the smaller bodies circling around the main asteroid, Coxine had expanded the small hut used by Wallace and

Simms into a huge rambling building containing armories, machine shops, and storage rooms packed with everything he and his murderous crew might need.

Now with a string of successful raids behind them and their personal pocketbooks bulging with stolen credits and valuables, the crew of pirates waited attentively while their cruel but brilliant leader outlined the most daring plan of all.

"Now listen," roared Coxine. "There's a few things I want to say before we start on the plans of the next strike!"

The big spaceman paused and glared at the men in front of him. "Ever since that space-crawling cadet pulled a fast one on me there's been talk about voting for another leader!" He spat the word as if it had left a foul taste in his mouth. "Well, get this. There'll be no voting! I'm the boss of this outfit! Any man who thinks he can take over my job," Coxine's voice dropped to a deadly whisper, "*just let him try!*"

Stony silence greeted the huge spaceman, a silence inspired by fear.

"Now!" roared Coxine, his coarse features changing from a scowl to a broad grin. "The strike!"

This was greeted with a roar of approval. The men demanded action after a week of idleness on the asteroid.

"Wallace!" yelled Coxine.

"Yes, sir," answered the spaceman, stepping up to the table and facing Coxine.

"We'll take up a position in the asteroid belt, here!" He placed a finger on a map of the belt. "Simms!" roared the giant spaceman.

"Yes, sir!" the wizened space pirate stepped forward.

"You remember that rocket scout we blasted? The one that got our other ship?"

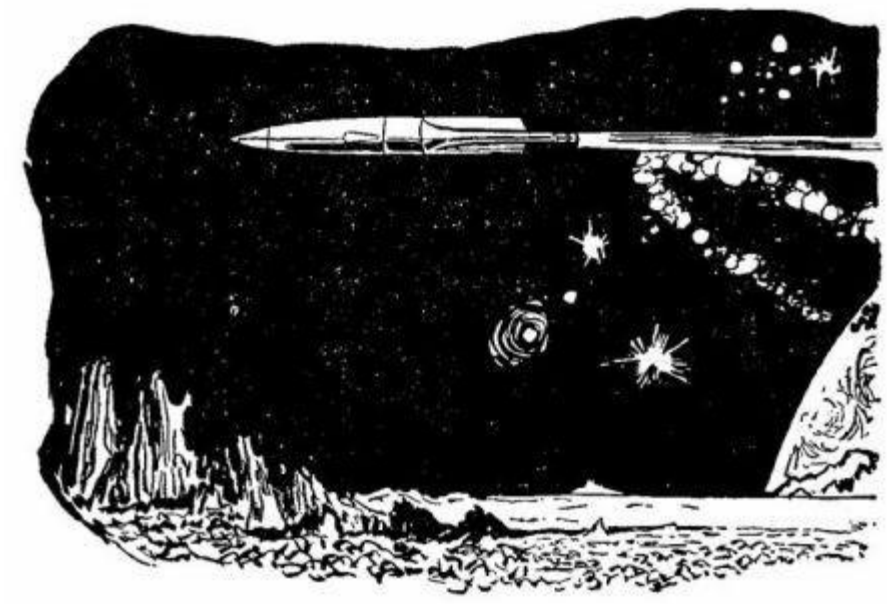
"I sure do, sir."

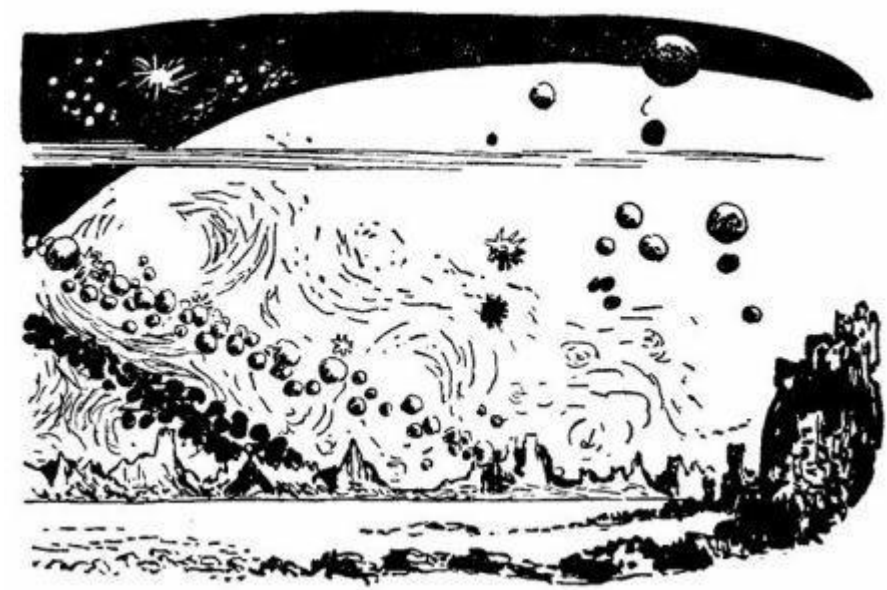
"It's drifting around in orbit near asteroid seventeen. Take a crew of men and a few jet boats and go get her. Bring her back here and fix her up. Strip every pound of excess weight off her. I want a ship that'll fly faster than anything in the system and I want it in twenty-four hours."

"Yes, sir," gulped Simms. "But then what'll I do with her?"

"After you've done what I've already told you to do," snapped Coxine, "I'll tell you more!"

Simms' face turned red, and he nodded curtly.





"Now as for the rest of you crawlers," said Coxine, facing the room full of

men. "Repair crews have been assigned for work on the rocket scout and the rest of you will work on the *Avenger* and prepare her for a long flight. I want the three-inch blasters, every paralo-ray gun and rifle, the fuel tanks, food supplies, oxygen circulators, in fact everything checked, rechecked, and *double-checked*!"

Joe Brooks, who had become a favorite of Coxine's, rose and faced the pirate captain. "Where are we going to strike next, skipper?"

Coxine looked at the man with a half-smile playing on his lips. "This operation will have two parts, Joe. The first—well—" his smiled broadened —"the Titan pay-roll ship just blasted off from Space Academy. For the last ten years, the Titan pay-roll ship has been blasting off from Atom City. Now why do you think it would suddenly leave from Space Academy, the home of the Solar Guard?"

The crowd of men murmured their bewilderment.

"I'll tell you why!" bawled Coxine. "Either they have that ship so packed with blasters it would take a fleet to stop it, or it's a trap!"

"But if you think it's a trap," exclaimed Wallace, "you're not going to hit it, are you?"

"I said it *might* be a trap!" snapped Coxine. "But it might not and with twenty million credits to be had for the taking, I'm not going to let her breeze through. I'm going to make sure it's a trap before I try something else!"

"But how?" persisted Wallace.

Coxine looked at his lieutenant coldly. He had indulged the man too long. "I'll tell you when I get good and ready! Now all of you, get out of here and make sure everything, and I *mean everything*, is ready to raise ship at a moment's notice!"

The men got up and shuffled from the room. Coxine turned to his two lieutenants. "All right, Wallace, see that those crawlers do what I told them to do. And you, Simms, get after that rocket scout."

The two spacemen saluted their captain and turned away. Coxine watched them leave the room, already planning his next move, a move calculated to be so surprising that the Solar Guard would be absolutely helpless.

Bull Coxine smiled and turned to study the charts of the asteroid belt.

* * * * *

Alone aboard the armored decoy ship, Captain Strong blasted steadily on his course through the asteroid belt. The young Solar Guard officer was aware that at any moment after reaching the celestial jungle of small planetoids he could be fired on without warning. And though the Solar Guard patrol ships, well hidden in the belt, would blast Coxine out of existence, it would still be

too late for him.

Grim-faced, his hands gripping the controls, he rocketed through space, determined to put an end, once and for all, to the marauding pirate and old enemy, Bull Coxine.

* * * * *

When night fell over the Academy spaceport, Tom, Roger, and Astro climbed silently into the giant rocket cruiser *Polaris* and raised ship for Titan. Their departure from Earth was routine, with no one but Commander Walters and Captain Strong knowing that stowed in the storage compartment of the spaceship was twenty million credits, the pay roll for the miners of Titan.

Once in space, the rocket ship was put on course and held there by automatic pilot. The three cadets gathered in the messroom and sipped hot tea, staring moodily into their cups. Unable to break audio silence, lest they should betray their position, their first chance of hearing any news lay far ahead of them at Titan. They could only hope that the decoy trap would succeed and that their skipper and friend would return safely. The only comment was Astro's grim prediction.

"If anything happens to Captain Strong," he paused and finished his sentence in a tense whisper, "I'll search the universe until I find Coxine. And when I do, I'll break him in two!"

CHAPTER 18

"Have you got everything straight?" asked Coxine. Simms nodded his head.

"All right, blast off," ordered the pirate. "We'll follow you and keep you spotted on radar. If it's a trap, head for asteroid fourteen, bail out in a jet boat, and let the scout keep going. We'll pick you up later."

Simms nodded again and turned to his old partner, Wallace. "So long, Gus." He smiled. "This is one time the Solar Guard gets it right where it hurts!"

"Yeah," agreed Wallace. "See you later. Take it easy on that asteroid and don't get in trouble with the girls!"

The two men laughed and Simms turned to climb into the waiting rocket scout. The sleek ship had been stripped down until it was hardly more than a power deck and control panel. She was now capable of more than twice her original speed. As the little spaceman disappeared into the air lock, Coxine turned to Wallace.

"We'll give him an hour's head start and then blast off after him. And remember, the first man that breaks audio silence will get blasted!"

All eyes were on the tiny rocket scout as its jets, roaring into life, lifted free of the pirate planetoid. When the speedy little ship had disappeared into space, Coxine turned to his crew and ordered an immediate alert. While the criminals readied the armed privateer for blast-off, Coxine and Wallace climbed directly to the radar bridge.

Joe Brooks was hunched in front of the scanner, staring intently. He looked up when the two pirate officers entered.

"Just following Lieutenant Simms on the radar, skipper," said Brooks. "He's blasting through the asteroid belt faster than I thought he could."

"Lemme see!" growled Coxine. The giant pirate stared at the scanner and his mouth twisted into a grin. He turned away and barked several orders. "Wallace, stand by to blast off in two minutes! Brooks, get me a bearing on that ship."

"You mean Simms?" asked the radarman.

"No! I mean that ship, right there," snapped Coxine. He pointed to a white blip on the scanner. "And after you get the bearing I want a course that'll intersect it in"—Coxine paused and glanced at the astral chronometer—"ten minutes!"

Quickly calculating the bearing and working up the course as ordered, Brooks handed Coxine a slip of paper. The pirate glanced at it briefly.

"What would you say Simms' speed would be if he kept his ship on full thrust, Brooks?" asked Coxine.

Brooks thought a moment. "I'd say it would be about half of what he's making now!"

"Exactly!" roared Coxine. "That's why the ship on your scanner isn't Simms' at all, but another ship!"

The radarman studied the scanner, where, with each sweep of the thin white line, the blip of the ship appeared. "You mean it might be the Titan pay roll?" he breathed hopefully.

"Yeah," breathed Coxine. "I mean it might be the Titan pay roll, and then again it might not!" Coxine turned away, leaving the radarman utterly confused.

Within the two-minute deadline that Coxine had ordered, the members of his crew were locking the last air lock and securing ship for blast-off. Coxine sat in front of the control panel, ready to give the final order that would send the vessel hurtling into space. In a little while, the evil mind, the twisted brain of Bull Coxine would be pitted against the might of the Solar Guard.

* * * * *

Captain Strong sat on the control deck of the decoy ship, watching the radar scanner and waiting for the appearance of Bull Coxine and his crew. Again and again, the young Solar Guard officer, too restless to remain in one spot, got up and paced the deck.

He flipped on a chart screen and studied the positions of the surrounding asteroids, which he knew hid the Solar Guard fleet, ready to pounce on any attacking ship. Schooled for years in facing the tedium of space travel and patrolling the space lanes, Strong nevertheless was anxious for something to happen, as minute after minute slipped past and no attack came.

Once he thought he saw something move on the scanner and gripped the sides of the instrument tightly as a blip appeared, disappeared, and then reappeared. Finally Strong was able to distinguish what it was and he turned away in disgust. It had been a maverick asteroid, one which, because of its positive gravity, never became a captive of other bodies in space. It wandered aimlessly through the belt, a danger spacemen feared more than any other, since it could not be depended upon to remain in one position.

Unable to break audio silence and communicate with the hidden Solar Guard fleet around him, lest he give away their positions, Strong found the loneliness driving him into a case of jitters and nerves.

Suddenly he jumped up and stared unbelievingly at the scanner. There in front of him was a blip, traveling at amazing speed, straight for his ship. From

its size and shape, Strong could tell it was a rocket scout. He watched it for a moment dumfounded at the speed of the small ship. When he was certain that it was heading for him, he grabbed the audioceiver microphone and began calling hurriedly.

"Attention all ships! This is Captain Strong. Spaceship approaching me, starboard quarter, one-one-five degrees. Estimated speed—" Strong paused and watched the moving blip. "Speed unknown. All ships close in immediately!"

On the scanner, Strong could see the flashes of blips as the squadrons roared out of concealment and closed in on the approaching rocket scout. Over the audioceiver he could hear the squadron commanders snapping orders to their ships as the small ship still headed, unheedingly, for his decoy vessel.

Suddenly the attacking ship slowed and Strong could see the blip turn in a wide-sweeping curve. But it was too late. The Solar Guard ships had it surrounded from every possible angle. The little scout made a desperate dash straight for Strong's ship. In a flash, he saw the plan of the ship's pilot. He was heading for Strong, hoping to use him as a shield from the mighty six-inch blasters trained on him.

Strong grabbed for the control and fired full thrust on his starboard jets, sending the decoy vessel into a screaming dive. The attacking ship tried to follow, but seeing it couldn't make it, turned and tried to escape from the surrounding ships. Instinctively Strong shouted a warning to the pilot to surrender, but even as he spoke, he saw the firing flashes sparkle on the hulls of a dozen fleet vessels as they sent their deadly atomic missiles converging like lightning arrows on the speedy rocket scout.

There was a burst of pure white fire on the scanner and then the young captain gulped as the attacking ship was blasted into a hulk of twisted metal.

Strong grabbed the audioceiver microphone and shouted orders to the fleet squadron leaders.

"… Squadron L! Put out immediate rescue jet boats and begin salvage operations. All remaining ships will return to Solar Guard base, Space Academy. End transmission!"

Strong hurried to the air lock, hastily put on a space suit, and in a few moments was blasting in a jet boat toward the remains of the attacking scout.

Immediately the communications of the departing fleet were filled with talk of their victory over the pirate band. Strong alone felt uneasy about their success. For Coxine to attack in a light rocket scout, which Strong felt sure had been stripped down to gain more speed, did not follow the pattern which the hardened pirate had established in previous raids.

When he arrived at the wreckage of the rocket scout, Strong found that his fears were justified.

A crew chief from one of the rescue squads approached Strong; his body weightless in space, the man grappled for a handhold on a jutting piece of the twisted wreck, and then spoke to Strong over the helmet spacephones.

"We found only one person aboard, sir," he reported. "And the ship appears to have been stripped of everything but engines and control panel."

Behind the protective glass of his helmet, Strong grimaced. He turned to Captain Randolph. "We've been tricked again, Randy," said Strong bitterly. "We used a decoy and so did Coxine!"

* * * * *

"They're closing in!" Roger's voice crackled through the intercom from the radar bridge. "Do we fight or do we let those space crawlers take over?"

"Fight!" bellowed Astro from the power deck.

"No! Wait!" cried Tom. "We haven't a chance! If we don't heave to, Coxine'll blast us into space junk!"

Rocketing through the asteroid belt with the Titan pay roll, the three space cadets, under strict orders to maintain communications silence, were unaware that Bull Coxine had outsmarted Captain Strong. Sending in the rocket scout, he had sprung the Solar Guard trap and had cagily scanned the belt for another ship. Finding the *Polaris* easily, the pirate captain was blasting in for the attack.

On the control deck of the Solar Guard cruiser, Tom Corbett desperately tried to think of a plan to outwit Coxine, while his unit-mates urged him to fight back.

"What's the matter, Junior?" Roger called over the intercom sarcastically. "Scared to fight?"

"You know I'm not," snapped Tom in reply.

"By the rings of Saturn," growled Astro, "I never thought you'd surrender to anybody, Tom!"

"Listen, both of you!" shouted Tom. "It's no use! We've got to play this smart!"

"Well, start making with the brains," sneered Roger. "Coxine's in range now."

"Attention—" A harsh unmistakable voice rumbled over the audioceiver. "This is Bull Coxine! Heave to or you'll be blasted!"

"All right, Junior," said Roger bitterly, "company's coming. What now?"

"Cut all power, Astro—fast!" ordered Tom.

"What's the matter?" growled Astro. "Afraid they'll shoot if you don't stop fast enough?"

"Keep your big trap shut and do as I tell you!" snapped Tom.

"Listen, Junior!" snarled Roger. "As far as I'm concerned—"

Tom interrupted him. "*You* listen, you idiot! Don't you see what's happened? Coxine must have found out about the decoy ship, and when we showed up on his scanner, he figured right away that we might have the Titan pay roll."

"So what?" demanded Roger. "That still doesn't let you off for not belting that crawler with our six-inchers!"

"Use your head!" snapped Tom. "With the Solar Guard squadrons on the other side of the belt and with no gun crews on our ship, how far do you think we'd have gotten?"

"You didn't have to surrender, Tom," said Astro. "I could have outrun Coxine in nothing flat. Why, I haven't got half the speed out of this old girl I think she's got."

"A great idea, bird brain! Run away from the very guy the Solar Guard's going crazy trying to find!"

The intercom was suddenly silent as Astro and Roger began to understand

Tom's decision and waited for him to elaborate on his idea.

"Now, listen, Roger," said Tom patiently, "we've got about five minutes before those crawlers will be aboard. How long will it take you to make a signal beacon that'll send out a constant automatic SOS?"

"A what?" asked Roger.

"Beacon. One that will transmit on the Solar Guard special frequency and be small enough to hide here on the *Polaris*."

"Why hide it on the *Polaris*?" asked Astro. "Why not try to get it on their ship?" His tone was almost apologetic now that he realized Tom was not planning a cowardly surrender.

"It's a cinch they'll take the *Polaris* over," explained Tom. "She's fast and she's got six-inch blasters."

"I get it!" yelped Astro. "We plant the beacon on the *Polaris*, and when they take her over, the signal will be going out all the time." Astro paused. "But wait a minute. They'll be sure to search the ship first!"

"First things first, Astro," answered Tom. "Roger, can you make the beacon?"

"Yeah," said Roger, "but it'll take me at least a half hour!"

"You've got to finish it faster than that!" Tom insisted.

"I can't, Tom. I just can't."

"All right, then we'll have to stall as best we can. Get to work. Meantime, Astro and I will find a place to hide it. How big do you think it'll be?"

There was a momentary pause and then Roger replied, "No smaller than six inches. About like a shoe box."

"Could you make it three inches thick, and longer, instead of box-shaped?"

Roger hesitated again. "Yeah, I guess so. Why?"

"Because I just thought of a good place to hide it. They'd have to tear the ship apart to find it, *if* they even hear the signal!"

"Attention! Attention! This is Coxine—" The pirate's voice bawled over the audioceiver again. "You are under my guns. Stand by to receive a boarding party. If you make any attempt to escape, you will be blasted!"

Tom grabbed the microphone to the audioceiver and replied, "Orders understood, but you'll have to wait until we can build up air pressure in the air lock."

"Very well," said Coxine. "We'll give you fifteen minutes."

Tom thought desperately. "You'll have to wait at least a half hour. We broke a valve and have to replace it!"

Coxine's voice became suspicious. "Hey, what're you trying to pull?"

"Honest, Mister Coxine," whined Tom, "we're not doing anything."

"Fifteen minutes," roared Coxine, "or I blast a hole in your ship!"

"Yes, sir!" answered Tom, fully aware that the pirate captain would carry out his threat.

Dropping the audioceiver microphone, the young cadet hurried to the power deck, where Astro waited impatiently.

"Grab a couple of cutting torches, Astro," he said, "and get me a lead-lined suit. I'm going into the reactant chamber."

"What?" demanded Astro.

"You heard me! I'm going to hide that beacon where they'll never find it."

"In the reactant chamber?" asked Astro. "Impossible!"

"Remember when we first arrived at the prison asteroid? How thoroughly we were searched?"

Astro nodded.

"Remember, they even searched the space between the inner and outer hulls? There's three inches of clearance in there. If I cut into that space through the reactant chamber and put the beacon inside, the noise of the jets will keep Coxine from hearing it, and the radioactivity in the chamber will keep them from picking it up on their detectors!"

Astro's face spread into a wide grin, and without another word, he began preparing the cutting torches. Ten minutes later Tom emerged from the chamber and nodded triumphantly. "All set, Astro! Now all we need is the beacon."

Suddenly the *Polaris* was rocked by a heavy explosion.

"They're firing!" yelled Astro.

"Roger! Have you finished the beacon?" demanded Tom over the intercom.

"I need another five minutes!" answered Roger. "I have to set the signal to send out the SOS."

"Will it send out *anything*?" asked Tom.

The *Polaris* rocked again from a second explosion.

"I don't know, Tom," yelled Roger. "I haven't even tested it!"

A third explosion jarred the rocket cruiser and the curly-haired cadet knew that the air lock must have been demolished by now.

"Bring down what you've got, Roger!" he yelled. "We'll just have to take a chance that it'll work. And grab yourself a space suit on the way down. When they blast through the inner portal of the lock, we'll need 'em!"

"Right!" replied Roger. "Be down there in a second."

Astro and Tom hurriedly donned space suits and waited for Roger to bring the beacon. In a moment the blond-haired cadet appeared with the hurriedly contrived beacon. Tom quickly placed it between the two hulls and sealed the hole in the inner hull.

A fourth explosion rocked the ship and the three cadets knew that by now the air lock had been blasted away. They put on their space helmets and climbed the ladder to the upper deck.

Coxine met them near the air lock, two paralo-ray guns clutched in his gloved hands. Behind him, his crew swarmed in and fanned out all over the ship.

But the space pirate stood on the control deck, glaring at Tom. "Whaddya know! The Space Kid himself!"

"That's right, Coxine," said Tom quietly, "only the real name is Corbett."

Suddenly there was a triumphant shout from one of the pirates. "Skipper! The credits! All twenty million! We found 'em!"

Over their spacephones the three cadets could hear the pirates yelling and cheering. Coxine bellowed for silence and the cheering quickly subsided.

Paying no further attention to the three cadets, the pirate captain ordered his men to repair the hole in the air lock and prepare for immediate acceleration. There was a triumphant gleam in his eyes as he announced their destination.

"With the Solar Guard on the other side of the belt, we're going to hit the richest prize in the universe! The colony on Ganymede!"

He then turned and smiled at his three prisoners, adding menacingly, "And we've got three passes to get us through the defenses!"

CHAPTER 19

Ganymede, the largest moon of Jupiter, was an important way station of the Solar Alliance for all spaceships traveling between the outer planets of Saturn, Uranus, Neptune, and Pluto and the inner planets of Mars, Earth, Venus, and Mercury. The colony on Ganymede was more of a supply depot than a permanent settlement, with one large uranium refinery to convert the pitchblende brought in by the prospectors of the asteroids. Refueling ships, replenishing supplies, and having a small tourist trade, it was a quiet colony, one of many spread throughout the system.

With the Solar Guard search squadrons hopelessly out of range on the other side of the asteroid belt, the cadets' only hope of saving the tiny colony lay in the beacon hidden inside the hull of the *Polaris*.

Leaving Wallace and half of his crew aboard the *Polaris*, Bull Coxine had transferred the three cadets to the Avenger and thrown them into the brig. As the ship accelerated toward the colony, Tom stared out of the small, barred viewport while Roger and Astro sprawled glumly on the hard bunks.

Roger finally broke the heavy silence. "What do you suppose Coxine meant when he said he had three passes into Ganymede?"

"Give you one guess, pal," snorted Astro.

"He obviously expects us to give him the recognition signal," said Tom.

Roger sighed. "That's what I figured. But I was hoping I was wrong."

"At least we're all immune to truth drugs," said Astro hopefully. "He won't get the recognition code out of us that way."

"That dirty space crawler wouldn't even bother with drugs," muttered Roger. "They aren't enough fun. He likes to get what he wants the hard way."

"Yes," agreed Tom. "We're in for a rough time, guys."

They all looked at each other, fully aware of what lay in score for them. Finally Astro growled, "I don't care what he does to me. I won't tell him a thing!"

"Same here!" exclaimed Roger.

Tom merely nodded, his face a grim, expressionless mask.

Suddenly three men led by Brooks, the radar operator, appeared in the passageway outside the brig. Brooks stepped forward, opened the door, and gestured with the paralo-ray gun in his hand.

"All right, you punks! Outside!"

Astro started to lunge for the pirate, but Tom grabbed him by the arm. "Take it easy, Astro. That won't get us any place."

"You can say that again," sneered Brooks. "One crazy move like that, kid, and I'll freeze you solid as a cake of ice! Now come on! Move!"

Tom, followed by Astro and Roger, walked slowly out of the brig, and guarded closely by the three pirate crewmen they were taken to the main air lock.

"All right," said Brooks. "The big ox and blondie, get in there!"

One of the crewmen opened the air-lock portal while the other two jabbed Astro and Roger with ray guns. The two cadets stumbled into the chamber and the door was slammed behind them.

"Lock it!" snarled Brooks.

When the men had secured the portal, Brooks turned and pushed Tom roughly along the passageway. A moment later they reached the control deck where Bull Coxine was hunched over his charts.

"Here he is, Captain," said Brooks. "The other two are sealed up in the air lock like sardines!"

Coxine nodded and faced Tom, a thin smile on his face. "I told you I would get the recognition signal, Corbett," he said. "And I will!" Coxine walked over to a large valve on the after bulkhead and tapped the needle indicator right beside it. Satisfied, he turned back to the cadet.

"In two hours," began Coxine, "we'll be within range of the Ganymede garrison and its radar. It takes exactly eight turns on this valve to bleed the air out of the air lock where your two buddies are. So, every fifteen minutes I'm going to ask you for the recognition signal, and every time you say no, I'll turn the valve once. By the time we get close enough to Ganymede to be picked up on their radar, you'll either have given me the signal or your buddies will be dead!"

Tom stood listening to Coxine, his blood boiling at the giant spaceman's cruelty. Suddenly he tore across the control deck and made a dive for Coxine's neck. But the big man met him coming on and with a powerful slap of his hand sent the boy sprawling back across the deck.

"You're a good man, Corbett," said Coxine, standing over the fallen cadet, "but you're a *little* man, and a good big man can lick a good little man any time!"

Brooks and the crewmen laughed loudly as Tom dragged himself to his feet.

"Well, do I get the signal?" demanded Coxine. "Or do your buddies get a little less air?"

Standing unsteadily on his feet, with four paralo-ray guns trained on his body, Tom thought quickly of Roger and Astro, alone in the darkness of the air lock, soon to be clawing their throats for air; of the merciless attack on the prison asteroid; of the helpless ships Coxine had looted. All these things and more flashed through the curly-haired cadet's mind as he weighed his life and the lives of his unit-mates against an attack that would devastate the small satellite of Jupiter. Tom could see through the pirate's demand for the

recognition signal. Once inside the Ganymede radar screen, he could attack the Solar Guard garrison and wipe it out before it could raise a ship in defense.

"Well?" demanded Coxine, placing his huge hand on the valve.

Tom knew that if he could stall long enough, the signal aboard the *Polaris* might be picked up by the Solar Guard. Roger and Astro were in good physical condition. They could conserve their energy as soon as they discovered the trap. He had to stall and hope the signal would be picked up in time.

"The only thing I'll ever give you, Coxine," said Tom through clenched teeth, "is a blast of a paralo-ray!"

Coxine snarled in anger and turned the valve, shouting, "One more thing, *Mister Hero*! The minute the air lock is empty, *you* take a swim in space too!"

Tom was prepared for that. He knew the pirate would not take defeat at the hands of a Space Cadet easily. Tom was resigned to his fate. He was ready to accept anything if it would serve the purpose of ridding the solar system of Bull Coxine.

"Tie him to that chair," snarled the giant pirate captain. "And make sure he's secure, or you'll go swimming in space with him!"

Tom was shoved roughly into the copilot's chair in front of the control board and tied down with a thick rope. He winced as the heavy line dug into his arms. After inspecting the job, Coxine dismissed Brooks and the men with a curt nod and returned to his charts.

Tom sat in front of the control panel, his eyes sweeping the gauges and dials and at last fixing on the master acceleration lever. Two feet away was the lever that controlled all the power on the ship. If he could only reach it, he could stop the *Avenger* dead, and possibly even put the ship completely out of commission. But try as he might, he could not get his hands free.

Coxine looked up at the astral chronometer and walked over to the valve. "Well, Corbett," demanded the burly spaceman, "what's the recognition signal?"

Tom only shook his head.

"Must be pretty bad, sitting down there in the dark, hearing the oxygen feed in slower and slower. You sure you won't change your mind?"

Tom looked squarely at Coxine, hatred in his eyes, and he watched the pirate captain shrug his shoulders, turn the valve again, and return to his charts.

The young cadet watched the astral chronometer, seeing the red hand sweep the seconds away, and the black minute hand inch around the dial. Over and over, the curly-haired Space Cadet refused Coxine's demand for the recognition signal and then watched helplessly as the pirate gave the air-lock valve another twist.

Nearly two hours had passed and Tom knew that they would soon be in radar range of the Ganymede garrison. The pressure in the air lock must now

be within ten units of zero. Suddenly, overhead, the audioceiver loud-speaker crackled into life.

"Attention! This is Ganymede traffic control. Identify yourself immediately with authorized code!"

Coxine glared at Tom and put his hand on the air-lock valve. "Last time, Corbett. Either you give me the Solar Guard recognition signal, or your buddies are finished!"

Tom gulped. He had no assurance that Coxine would release Roger and Astro, even if he did give him the signal. But he knew there was no choice. He looked up at Coxine.

"Do I have your word as an *Earthman* that nothing will happen to them?" he asked quietly.

Coxine laughed. "Sure. I'll give you my word. I'll even bring them up here so they can see the show and then let you go afterward. But by the time I'm finished with the Ganymede colony the Solar Guard will have your hides for handing out their secrets."

Tom knew what the pirate said was true. He was taking a gamble now. A gamble that by this time his signal on the *Polaris* had been picked up and a fleet of ships would be on their trail.

"Attention! Attention! Identify yourselves immediately!" The voice from the Ganymede traffic-control tower came over the audioceiver again. Coxine's face twisted into a half-smile.

"Well, Corbett, do I get the signal or don't I?"

"Tell them you're a Solar Guard armed freighter." Tom's voice was low. "You're assigned to operation 'Vista.'"

"Vista?" said Coxine excitedly. "Is that the code word? Vista?"

"Yes," said Tom. "Now open the valve!"

Coxine gave the valve a number of turns in the opposite direction and jumped to the teleceiver. He flipped the key open and called Wallace aboard the *Polaris*. "When they ask you for identification, tell them you're working on operation Vista. That's the key word. Vista!"

"Right!" answered Wallace.

Coxine then turned to the audioceiver and spoke in confident, assured tones. "Attention, Ganymede traffic control! This is armed freighter *Samson*, assigned on project Vista. Request clearance for approach and touchdown on Ganymede spaceport!"

"You are properly identified, *Samson*," replied Ganymede. "Proceed on your present course. End transmission."

"End transmission!" roared Coxine triumphantly.

The giant pirate turned back to Tom, bellowing, "Thanks, Corbett. You've just given me the key to everything I ever wanted."

"What do you mean?" asked Tom, suddenly frightened by the strange wild gleam in Coxine's eyes.

"By the time I've finished with Ganymede, I'll have every ship on their

spaceport. A fleet big enough to hit any part of the Solar Alliance I want! Solar Guard or no Solar Guard!"

"No! You can't!" gasped Tom.

"Can't I?" snarled Coxine. "I'll show the Solar Guard something they never saw before. Their own ships blasting them right out of space!"

Coxine turned to the intercom, ordered Astro and Roger brought up to the control deck, and then contacted Wallace aboard the *Polaris*.

"Yeah?" answered the spaceman from the control deck of the rocket cruiser.

"We're going in according to plan! Train all your guns on the Solar Guard defense installations and stand by!"

"Ready any time you say the word," replied Wallace.

Jumping back to the intercom, Coxine gave orders to the power deck for full thrust, then ordered the radar bridge to relay the scanner image of Ganymede to the control deck.

As the rocket ship surged ahead under the added thrust, Tom strained against his ropes to watch the scanner and saw the clear image of the colony. He could make out the outline of the uranium plant, the atmosphere booster stations and small buildings clustered around the spaceport. As they drew closer to the tiny colony, Coxine grabbed the intercom and the teleceiver microphones and barked crisp orders to both the Avengers and the *Polaris*' power decks. "Full braking rockets!" roared Coxine.

Tom braced himself against the sudden reverse pressure of the powerful nose rockets, and then, in a moment, felt the *Avenger* come to a dead stop. Watching the scanner again, he saw that they were directly over the Solar Guard garrison. Coxine switched the teleceiver to the colony frequency and spoke sharply and confidently.

"Attention! All citizens of Ganymede colony! This is Bull Coxine. Your entire settlement is under my guns. Any attempt to raise ship and oppose me will be met with instant destruction! Every citizen is hereby ordered to assemble at the municipal spaceport within five minutes. All Solar Guard officers and men will do the same. You have five minutes to comply, or I will open fire!"

The giant spaceman flipped off the teleceiver before anyone on Ganymede could answer. Pressing with all his might, Tom managed to see more of the scanner which suddenly showed the people of Ganymede scurrying out to the spaceport in panic. Coxine watched the activity on the scanner for a second and then grunted his satisfaction.

Suddenly the hatch was thrown open and Astro and Roger were pushed into the room by two crewmen.

Coxine turned to them, smiling thinly. "You owe your lives to your buddy here. One more minute and you would've been walking with the angels. Now," he added to the crewmen, "tie them up so they can see the scanner. I want them to see how easy it is to knock off a Solar Guard garrison!"

"Why you—" Astro lunged toward the pirate but was stopped in his tracks by a blast from a paralo-ray gun behind him. The big cadet stood rigid, motionless, every nerve and muscle in his body paralyzed. Coxine sneered and turned back to the intercom while his men tied up the two cadets.

Tom and Roger looked at each other and, without speaking, knew what the other was thinking. Their only hope was the beacon signal aboard the *Polaris*.

After the men had tied Astro, they released him from the effects of the ray charge and threw him down beside Roger.

"How do you feel?" asked Tom.

"Like I've been run through a set of gears," mumbled Astro. "How about yourself?"

"O.K.," replied Tom. "Was it"—he paused—"was it tough in the air lock?"

Roger smiled. "Not as tough as it must have been on you up here. We realized what was going on as soon as we found out we were losing air."

The blond-haired cadet shook his head and Tom noticed that both Roger and Astro were weak from their ordeal in the chamber.

At the control panel, Coxine was bawling orders to his crew. "Jet boats one, two, three, four, and five! Stand by to blast off!"

The three cadets looked at each other helplessly.

"Russell, check in," continued the burly spaceman.

"Russell here!" replied a voice on the intercom.

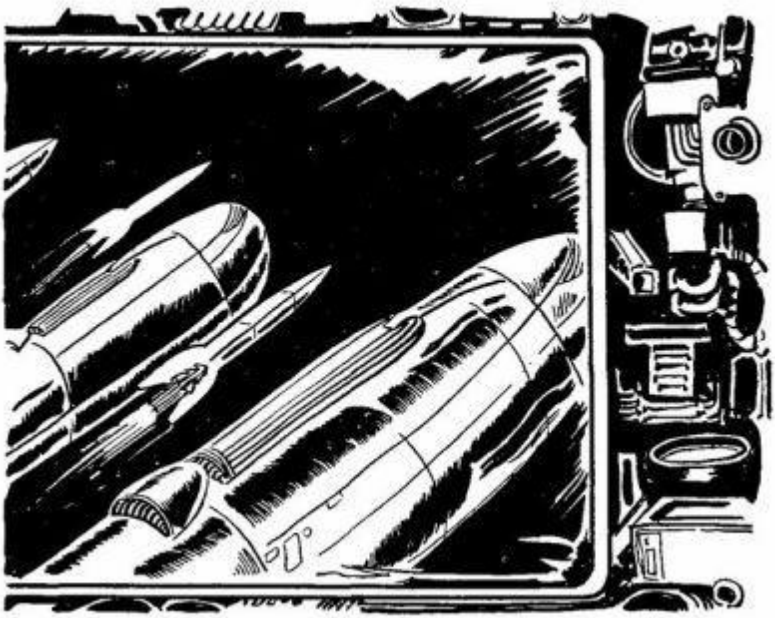
"You're in charge of the party. I want you to do one thing, and one thing only! Take the largest ships on the spaceport and blast off. Don't touch anything else! Just the ships. Those you can't get off the ground, leave. We'll blast them later!"

"Aye, aye, sir."

Coxine strode over to the teleceiver. Immediately the image of a man in the uniform of a Solar Guard major appeared on the screen. His voice echoed in the control room.

"Hello, Coxine! This is Major Sommers! Come in, Coxine!"

"Yeah—" replied Coxine. "Whaddya want?" The pirate captain stepped arrogantly in front of the teleceiver's transmitting lens, and from the look on the officer's face, Tom knew he had seen Coxine on his own screen.



"We've followed orders," said the major. "Our only request is that you do not harm any of the citizens—"

Coxine cut him off. "Stow that space gas! I'll do what I please! I'm sending down a crew of men. They have certain orders. Any interference from you and I'll open fire with everything I've got—right in the middle of the spaceport."

Tom gasped. The spaceport was now crowded with the citizens of the tiny colony.

The major nodded gravely. "I understand," he said. "You may rest assured no one will interfere with your men!"

"Huh!" sneered Coxine. "You don't sound so high and mighty now that you're staring into the barrels of a dozen atomic blasters!" He snapped off the teleceiver and roared with laughter.

Tom felt a shiver run down his spine. He could imagine the frustration of the Ganymede garrison, a crack crew of fighting men, forced to surrender without firing a shot. And he had been the cause by giving Coxine the code recognition signal!

Coxine snapped an order into the intercom and a moment later Tom saw the jet boats on the scanner, rocketing down to the surface of the small satellite.

As, one by one, the small ships landed on the spaceport, the three cadets could see the crowds of colonists fan out, allowing the jet boats to come in without interference.

Coxine strode up and down the control deck restlessly, but keeping his eyes on the activity below. Suddenly he rushed to the scanner, stared hard, and then let out a roar of triumph.

The three cadets saw the reason immediately. On the scanner were the unmistakable outlines of two Solar Guard heavy cruisers, four destroyers, and six scouts, hurtling spaceward at tremendous speed. Coxine spun around, balled his fists into tight knots, and shook them at the three cadets.

"I've won! I've won!" He roared with insane laughter and there was a crazed gleam in his eyes. "I've got the ships, the guns, the men, and the secret of the adjustable light-key. By the time I'm finished with the Solar Guard there won't be anything left of those crawlers but what you can hear on a story spool, and the Solar Alliance will be run by one man!" He paused, his face grew hard and he tapped his chest menacingly. "Me!"

CHAPTER 20

"I don't care if the blasted ship blows up!" roared Captain Strong to the power-deck officer of the Solar Guard rocket cruiser *Arcturus*. "I want every ounce of thrust you can get out of this space heap!"

The young Solar Guard captain turned back to the loud-speaker of the audioceiver, turned the volume dial a fraction, and listened. The steady pronounced ping of Roger's signal beacon filled his ears.

When Strong discovered that Coxine had outwitted him, he had gone aboard the rocket cruiser *Arcturus* of Squadron Ten and had continued on search patrol. He dared not break audio silence to warn the cadets aboard the *Polaris*, lest he give away the position of the ship. Later, when the radar officer of the *Arcturus* reported a steady signal over the audioceiver, Strong at first dismissed it as some form of interference from space. But when Titan failed to report the arrival of the *Polaris* on time, Strong investigated the strange sound. Taking a bearing on the signal, he discovered it came from a position dangerously close to the small Jovian colony of Ganymede. After repeated attempts to raise the *Polaris* failed, and no distress signals had been received, Strong feared that Bull Coxine had won again. In a desperate effort to catch the criminal, he took repeated bearings on the signal and ordered full emergency space speed toward the small satellite of Jupiter.

Contacting Commander Walters at Space Academy, Strong related his suspicions and received permission to carry out a plan of action.

"I want you to engage the enemy at all costs!" ordered Walters. "Blast his space-crawling hide into protons! That's an order!"

"Yes, sir!" replied Strong with grim determination. "There's nothing I'd like better."

Six hours later Strong received confirmation of his worst fears. He was handed a message that read:

EMERGENCY:

GANYMEDE GARRISON ATTACKED ZERO THREE HUNDRED HOURS BY TWO SHIPS. ONE VESSEL IDENTIFIED AS ROCKET CRUISER POLARIS. SEND AID IMMEDIATELY. ENTIRE COLONY AT MERCY OF COXINE. SIGNED, SOMMERS, MAJOR, SOLAR GUARD.

Strong realized at once that the cadets had been forced to give the recognition code to the pirate. There wasn't any other way for the pirate to penetrate the defenses of Ganymede. And, thought Strong bitterly, to blast Coxine was to blast the cadets as well. The commander's words echoed again in his ears, "… blast him, Steve! That's an order!"

Strong turned to his second-in-command. "Man all guns! Stand by to attack under plan S! We'll engage the enemy as soon as he's sighted!"

The young officer saluted and turned away quickly. But not before he saw the mist in Steve Strong's eyes.

* * * * *

Tom, Roger, and Astro watched the incredible scene taking place in front of them with unbelieving eyes. Seven men were standing at rigid attention on the control deck of the *Avenger*. Wallace, Russell, Attardi, Harris, Shelly, Martin, and Brooks. In front of them, standing equally rigid, Bull Coxine was addressing them in a low restrained voice.

"Raise your right hands and repeat after me."

The men raised their hands.

"I hereby pledge my life to Bull Coxine!"

"… I hereby pledge my life to Bull Coxine…" repeated the men in unison.

"To uphold his decisions, obey his orders, and fulfill his purpose of destroying the Solar Alliance and establishing a new governmental order!"

The seven men repeated the words slowly and hesitantly.

"All right," said Coxine. "From this day on, you are my chief lieutenants. You will command the ships of my fleet, and when we destroy the power of the Solar Guard and take over the Alliance, you will help me rule our new order."

The seven men looked at each other, raised a mild cheer, and waited as Coxine shook hands with each of them.

"All right," said Coxine abruptly as he reached the end of the line. "Get to your ships and prepare for full acceleration. We go into action immediately!"

The men filed from the room silently, each with a worried look on his face. Coxine failed to notice their lack of enthusiasm and turned to the three cadets.

"Some day, boys," he said, "you'll go down in history as being the first witnesses to the establishment of the new order."

Astro glared up at the giant spaceman. "We'll be the witnesses to the biggest bust in the universe when the Solar Guard catches up with you!"

"Yeah," drawled Roger in his most casual manner. "You're the one that'll

go down in history, Coxine, as the biggest space-gassing idiot that ever blasted off!"

Tom suddenly guffawed. Though close to death, he couldn't help laughing at Roger's remark. The big spaceman flushed angrily and with the flat of his hand slapped the cadet across the face. Then, he turned to the teleceiver and opened the circuit to all the ships that were standing by in space around the *Avenger*, the ships of the Ganymede garrison.

"Stand by for acceleration," he called. "We're going to show the Solar Alliance who's boss, beginning right now! I'll give you the target in a few minutes but head in the direction of Earth!"

He faced the three cadets and sneered. "By the time I'm finished with Luna City, the only thing active will be radioactive!"

Suddenly Gus Wallace could be heard screaming over the teleceiver, his face a mask of fear and panic.

"Bull! Bull!" he shouted. "The Solar Guard! We just spotted them! Squadrons! Heading straight for us! We've got to get out of here!"

"What?" roared Coxine, turning to his radar scanner. The blips on the screen verified the alarm. He shouted into the teleceiver, "Man your guns! We'll wipe them out right now!"

"But, Bull—" whined Wallace. "They'll blast us out of space!"

Coxine roared into the mike. "The first one of you yellow crawlers that tries to run for it will be blasted by me! Man your guns, I said! This is our big chance! Wipe out the Solar Guard now and the Solar Alliance is ours for the asking! Fight, men! Fight!"

Tom, Roger, and Astro looked at each other, mouths open, not knowing whether they should laugh or not at the dramatic speech of the huge spaceman. But whatever the private feelings of the criminals, Coxine had roused them to fever pitch and the boys could hear them racing through the *Avenger*, preparing to fight the squadrons of Solar Guard ships bearing down on them.

Coxine strapped himself in the pilot's chair and began barking orders to his battle stations, whipping his men into action relentlessly.

And then suddenly Captain Strong's voice, vibrant and firm, came over the audioceiver, demanding the surrender of the pirate captain and his fleet.

"Never!" roared Coxine. "You'll get my surrender from the barrels of every blaster I have under my command!"

"Then," replied Strong, "I have no alternative but to attack!"

With a coldness that reached across the void of space and gripped their hearts with icy fingers, the three cadets heard their skipper give his squadrons the deadly order!

"Fire!"

Coxine snapped his order at almost the same instant and the three cadets felt the *Avenger* shudder as her turrets began blazing away, returning round for round of the deadly atomic missiles.

Racing from scanner to the control panel and back again, Coxine watched the battle rage around him. With speeds nearing that of light, exhaust trails cut scarlet paths through the black space, as the two opposing fleets attacked, counterattacked, and then regrouped to attack again. The rhythm of the blasters on the *Avenger* had taken on a familiar pattern of five-second intervals between bursts. Gradually, one by one, the pirate ships were hit, demolished or badly damaged, but still they fought on. Coxine, his eyes wild with desperation, now kept lining up ships in his radar sights and firing, with no way of knowing which was friend and which was foe.

Tom, Roger, and Astro watched the dogfight on the scanner in horrified fascination. Never before had they seen such maneuvering, as the giant ships avoided collision sometimes by inches. Once, Tom tore his eyes away from the scanner when he saw a rocket destroyer plow through the escaping swarm of jet boats after one of the pirate ships had been hit.

Fire and change course, fire and change course, again and again, Coxine performed the miracle of escaping the deadly atomic blasters aboard the Solar Guard ships.

Suddenly the three cadets saw the outline of a rocket cruiser bearing down on them. The white blip on the scanner came closer and closer to the heart of the scanner. Just in time Coxine saw it and shouted for a course change. But even as the *Avenger* swung up and away from the attacking ship, the cadets saw the flash of flame from the cruiser's turrets and a moment later felt the bone-rattling shudder of a near miss.

The control deck suddenly filled with smoke. A flash fire broke out in the control panel and the circuits sparked and flared. Tom was thrown across the room and Roger landed on top of him.

"Up ninety degrees! Full starboard thrust!" roared Coxine into the intercom. "Hurry, you space crawlers! We've got to get out of here!"

Tom quickly realized that in the smoke and confusion Coxine couldn't possibly direct the ship back into the fight. There was only one explanation. He was deserting his fleet and trying to escape.

And then, over the noise and confusion, Tom could hear the sound of struggling bodies and Coxine muttering an oath between his teeth.

"I'll break you in two, you blasted space rat!"

There were more sounds of struggle, and Tom and Roger heard Astro's voice replying grimly:

"Do it and then talk about it, big shot!"

Slowly the smoke cleared from the control deck and Tom and Roger strained their eyes to see through the thick cloud. There, in front of them, stood Astro, torn strands of rope dangling from his arms, in mortal combat with Coxine. The two giants were holding each other's wrists, their feet spread wide, legs braced, grimacing faces an inch apart, struggling to throw each other off balance.

Astro and Coxine were locked in mortal combat

Astro and Coxine were locked in mortal combat

Tom and Roger watched the two huge spacemen brace against each other, muscles straining and faces turning a slow red as they tried to force the other's hands back. Suddenly, with the speed of a cat, Coxine stuck out his leg and kicked Astro's foot from the deck, tripping him. Astro tumbled to the deck. In a flash, the pirate was on top of him, gripping him by the throat. The Venusian grabbed at the hands that were slowly choking the life out of him and pulled at the fingers, his face turning slowly from the angry flush of a moment before to the dark-gray hue of impending death!

Still bound and tied by the heavy rope, the two cadets on the deck were

helpless, as Astro's strength slipped from his body.

Tom turned to Roger desperately. "We've got to do something!"

"What? I can't get loose!" The blond-haired cadet struggled against the ropes until the blood ran down his wrists, but it was a hopeless effort.

"Yell!" said Tom desperately. "Yell! Make a noise! Holler like you've never hollered before!"

"Yell?" asked Roger stupidly.

"We've got to distract him!"

Tom began to bellow, and immediately was echoed by Roger. They shouted and screamed. They kicked their feet on the deck and tore against their bonds.

Astro's hands no longer fought the powerful fingers taking his life. There was no strength in the cadet's hands now, but in the split second that Coxine turned to look at Tom and Roger, he gave a mighty heave with the last of his great strength and tore free of the pirate's grasp.

The Venusian jumped up and ran to the farthest corner of the control deck, gasping for breath. Coxine rushed after him, but Astro eluded him and stumbled to the opposite end of the control room, still trying to suck the life-giving breath into his screaming lungs. Slowly his strength returned.

Coxine made another headlong rush for the cadet, but this time Astro did not attempt to get away. He stood squarely to meet the charge and his right fist caught the pirate flush on the chin. Coxine staggered back, eyes wide with surprise. In an instant Astro was on him, pounding his mighty fists into the pirate's stomach and any place he could find an opening. Roaring like a wild animal, the cadet no longer fought for the honor of the Solar Guard or his friends. He didn't look upon the criminal in front of him as Coxine the pirate, but as a man who had nearly taken his life, and he fought with the ferocity of a man who wanted to live.

Again and again, Tom and Roger saw their unit-mate pound straight, powerful, jolting lefts and rights into the pirate's mid-section until they thought he would put his fist completely through the man's body.

Just as Coxine looked as if he would fall, he suddenly charged in again. But his powerful strength restored, Astro stepped back and waited for an opening. Coxine threw a whistling right for Astro's head. The Venusian ducked, shifting his weight slightly, and drove his right squarely into the pirate's face. His eyes suddenly glassy and vacant, Bull Coxine sank to the deck, out cold.

Breathing heavily, the cadet turned, wiped his face, and smiled crookedly at Tom and Roger.

"If I ever have to fight another man like that again," gasped Astro as he loosened the ropes around his unit-mates, "I want to have both fists dipped in lead before I begin!"

He held up his hands. There was not a bit of flesh remaining on his knuckles.

As soon as Tom was free he grabbed the pirate's paralo-ray gun. "We'd

better tie this crawler up!" he shouted.

"We'll do that," said Roger. "You try to figure out how we're going to get off this ship!"

Suddenly, behind them, the hatch burst open and Captain Strong rushed into the room, followed by a dozen armed guardsmen.

"Captain Strong!" yelled the three cadets together.

The young captain's face lighted up with a smile. He rushed over to Tom and grabbed him by the hand, then turned to where Roger and Astro were tying up Coxine.

Strong pointed his gun at the fallen pirate. "What happened to him?"

Roger smiled and nodded toward Astro. "Coxine told Astro he reminded him of an ox he saw at a zoo once on Venus. Astro got mad—" Roger shrugged his shoulders. "Poor Coxine, he didn't have a chance!"

Astro blushed and looked up at Strong. "Never mind us, sir," said the big cadet. "How did you get here!"

Strong told them of having picked up the beacon signal. "That was quick thinking, boys," he said. "It was the end of Coxine. If we hadn't stopped him now—" Strong shook his head.

"But how did you get aboard the *Avenger*, sir?" asked Tom.

"This was the only ship that wasn't a Solar Guard fleet vessel, so it was easy to spot. We captured the *Polaris* right off the bat, and after we searched it, figured you three were either dead, or aboard this one. I gave the order not to fire on you, since we wiped out Coxine's fleet before he could do any real damage. When we saw you accelerating, after that last near miss—which incidentally was intended to miss you—we came alongside, forced the air lock open, and took over."

"But didn't the crew offer any resistance?" asked Roger.

"No, and from the story they tell me about Coxine wanting to establish a new order, or something like that, they were glad to surrender. They think he's crazy."

When the enlisted men carried Coxine, still unconscious, off the control deck, the three members of the *Polaris* unit and their skipper watched him leave silently. All of them realized how close the Solar Alliance had come to destruction at the hands of the insane pirate. Finally Strong turned to his crew of cadets.

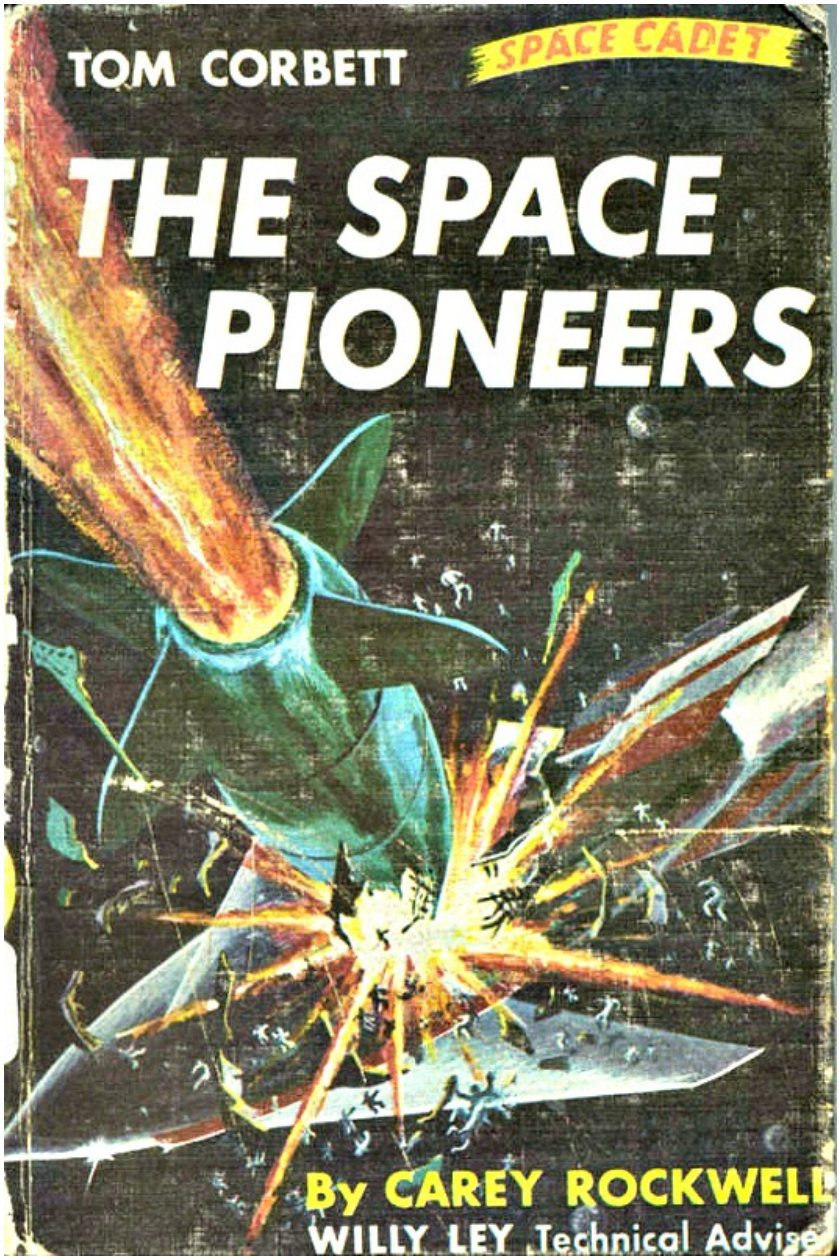
"Well, boys," he said wearily, "we've recovered the adjustable light-key and captured Coxine. I guess that finishes the space pirates!"

"Yes, sir," said Tom quietly. "And this sure teaches me a lesson."

"What's that?" said Strong.

"Never to think that being a Space Cadet is a matter of learning something from a story spool. Being a Space Cadet is like being—" He stopped. "Like nothing in the universe!"

THE END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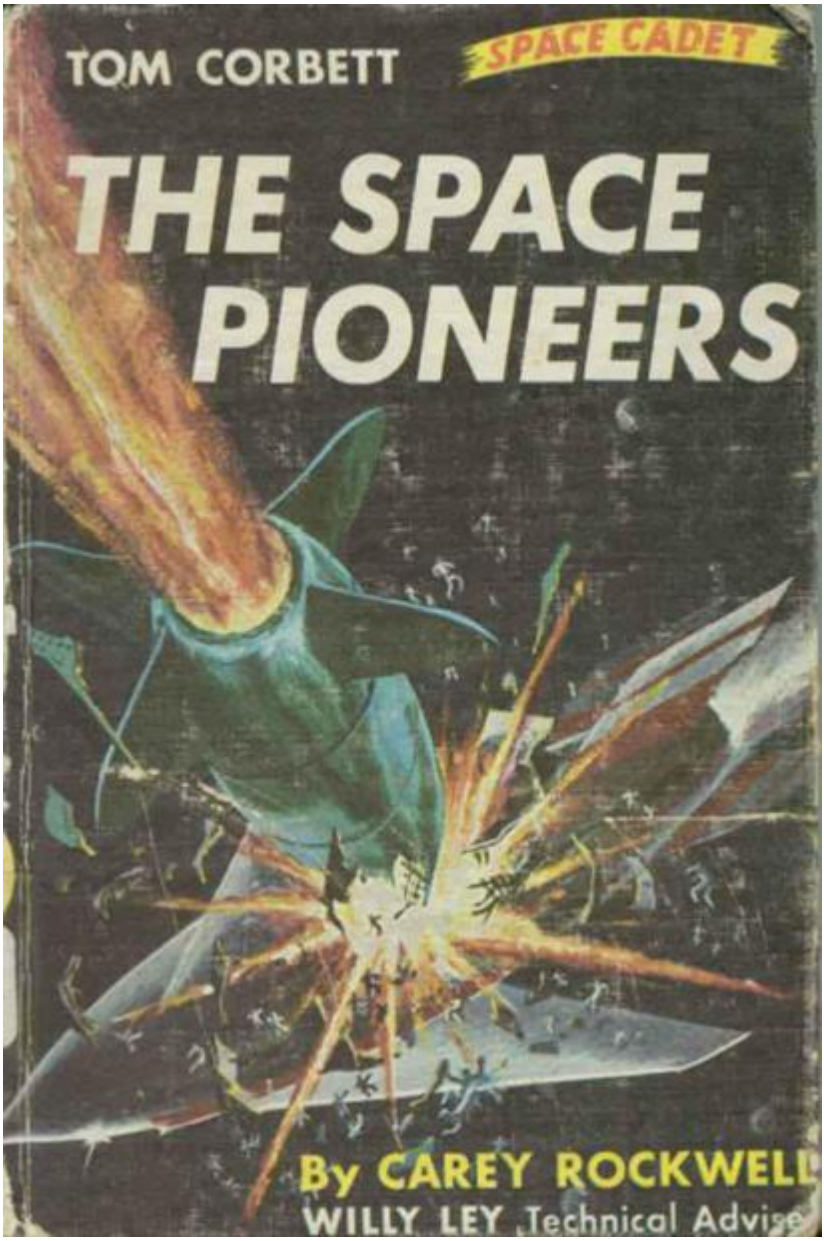
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CHAPTER 1

"Go on, Astro," shouted the young Space Cadet. "Boot that screwy ball with everything you've got!"

The three cadets of the *Polaris* unit raced down the Academy field toward the mercuryball, a plastic sphere with a vial of mercury inside. At the opposite end of the field, three members of the *Arcturus* unit ran headlong in a desperate effort to reach the ball first.

Astro, the giant Space Cadet from Venus, charged toward the ball like a blazing rocket, while his two unit mates flanked him, ready to block out their opponents and give Astro a clear shot at the ball.

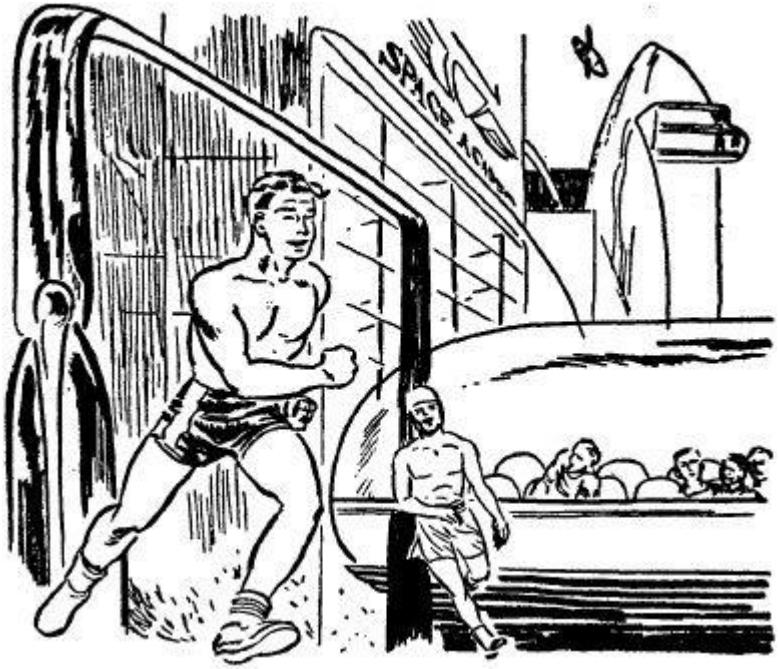
On the left wing, Tom Corbett, curly-haired and snub-nosed, ran lightly down the field, while on the opposite wing, Roger Manning, his blond hair cut crew style, kept pace with him easily. The two teams closed. Roger threw a perfect block on his opposing wingman and the two boys went down in a heap. Tom side-stepped the *Arcturus* cadet on his side and sent him sprawling to the ground. He quickly cut across the field and threw his body headlong at the last remaining member of the opposition. Astro was free to kick the ball perfectly for a fifty-yard goal.

Jogging back toward their own goal line, the three *Polaris* cadets congratulated each other. Astro's kick had tied the score, two-all.

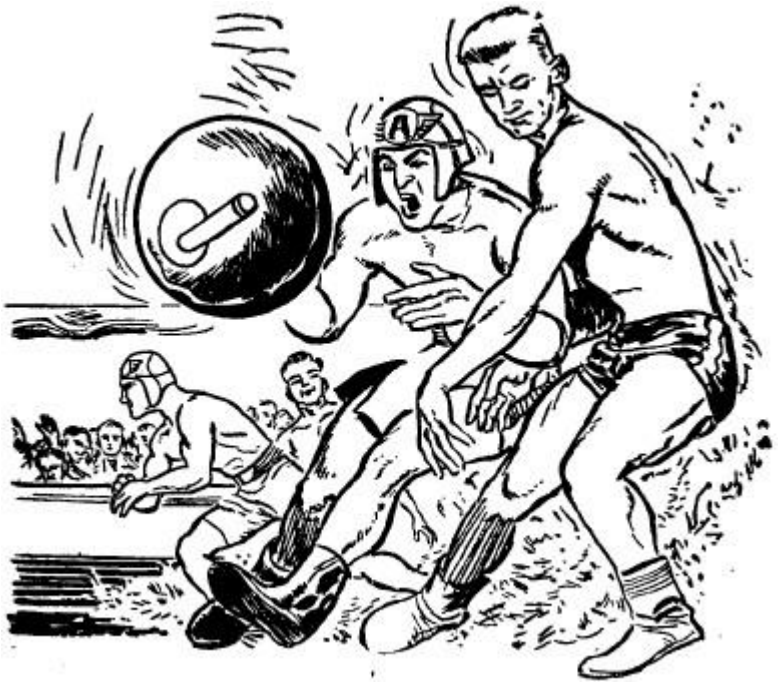
"That was some feint you pulled on Richards, Tom," said Roger. "You sucked him in beautifully. I thought he was going to tear up the field with his nose!"

Tom grinned. Compliments from Roger were few and far between.

Astro clapped his hands together and roared, "All right, fellas, let's see if we can't take these space bums again! Another shot at the goal—that's all I need!"



Lining up at the end of the field again, the cadets kept their eyes on the cadet referee on the side lines. They saw him hold up his hand and then drop it suddenly. Once again the teams raced toward the ball in the middle of the field. When they met, Roger tried to duplicate Tom's feat and feint his opponent, but the other cadet was ready for the maneuver and stopped dead in his tracks. Roger was forced to break stride just long enough for the *Arcturus* cadet to dump him to the ground and then race for Astro. Tom, covering Astro on the left wing, saw the cadet sweeping in and lunged in a desperate attempt to stop him. But he missed, leaving Astro unprotected against the three members of the *Arcturus* unit. With his defense gone, Astro kicked at the ball frantically but just grazed the side of it. The mercury inside the ball began to play its role in the game, and as though it had a brain of its own, the ball spun, stopped, bounced, and spiraled in every direction, with the cadets kicking, lunging, and scrambling for a clean shot. Finally Astro reached the tumbling sphere and booted it away from the group. There was a roar of laughter from the *Arcturus* unit and a low groan from Tom and Roger. Astro saw that he had kicked the ball over his own goal line.



"Why, you clobber-headed Venusian hick!" yelled Roger. "Can't you tell the difference between our goal and theirs?"

Astro grinned sheepishly as the three jogged back to their own goal to line up once more.

"Lay off, Roger," said Tom. "How come you didn't get Richards on that play?"

"I slipped," replied the blond cadet.

"Yeah, you slipped all right," growled Astro good-naturedly, "with a great big assist from Richards."

"Ah, go blast your jets," grumbled Roger. "Come on! Let's show those space crawlers what this game is all about!"

But before the cadet referee could drop his hand, a powerful, low-slung jet car, its exhaust howling, pulled to a screeching stop at the edge of the field and a scarlet-clad enlisted Solar Guardsman jumped out and spoke to him. Sensing that it was something important, the two teams jogged over to surround the messenger.

"What's up, Joe?" asked Roger.

The enlisted spaceman, an Earthworm cadet who had washed out of the Academy but had re-enlisted in the Solar Guard, smiled. "Orders for the *Polaris* unit," he said, "from Captain Strong."

"What about?" asked Roger.

"Report on the double for new assignments," replied the guardsman.

"*Yeeeeooooow!*" Astro roared in jubilation. "At last we can get out of here. I've been doing so blamed much classroom work, I've forgotten what space looks like."

"Know where we're going, Joe?" asked Tom.

"Uh-uh." Joe shook his head. He turned away, then stopped, and called back, "Want a lift back to the Tower?"

Before Tom could answer, Richards, the captain of the *Arcturus* unit spoke up. "How about finishing the game, Tom? It's been so long since we've had such good competition we hate to lose you. Come on. Only a few more minutes."

Tom hesitated. It had been a long time since the two units had played together, but orders were orders. He looked at Roger and Astro. "Well, what about it?"

"Sure," said Roger. "We'll wipe up these space jokers in nothing flat! Come on!"

There was a mock yell of anger from the *Arcturus* unit and the two teams raced back to their starting positions. In the remaining minutes of play, the cadets played hard and rough. First one team would score and then the other. A sizable crowd of cadets had gathered to watch the game and cheered lustily as the players tore up and down the field. Finally, when both teams were nearly exhausted, the game was over and the score was eight to seven in favor of the *Polaris* unit. Roger had made the final point after Tony Richards had left the game with a badly bruised hip. A substitute called in from the bystanders, an Earthworm cadet, had eagerly joined the *Arcturus* team for the last minutes of play but had been hopelessly outclassed by the teamwork of the *Polaris* unit.

Promising a return match soon, Roger, Tom, and Astro hurried to their lockers, showered, and dressed in their senior cadet uniforms of vivid blue, then raced to the nearest slidewalk to head toward the main group of buildings that made up Space Academy.

Whisked along on the moving belt of plastic that formed the principle method of transportation in and around the Academy grounds, Tom turned to his unit mates. "What do you think it'll be?" he asked.

"You mean the assignment?" asked Roger, answering his own question in the next breath. "I don't know. But anything to get out of here. I've been on Earth so long that I'm getting gravity-itis!"

Tom smiled. "It'll sure be nice to get up in the wide, high, and deep again," he said, glancing up at the cloudless sky.

"Say it again, spaceman," breathed Astro. "One more lesson on the differential potential between chemical-burning rocket fuels and reactant energy and I'll blast off without a spaceship!"

Roger and Tom laughed. They both sympathized with the big cadet's inability to cope with the theory of atomic energy and fuel conservation in spaceships. In charge of the power deck on the *Polaris*, Astro earlier had

gained firsthand experience in commercial rocket ships as an able spaceman and later had been accepted in the Academy for cadet training. The son of colonists on Venus, the misty planet, his formal education was limited, and though he had no equal while on the power deck of a rocket ship, in theory and classroom study he had to depend on Roger and Tom to help him get passing grades.

The slidewalk moved smoothly and easily toward the gleaming Tower of Galileo, the largest and most imposing of the structures of Space Academy. Made entirely of clear crystal mined on Titan, satellite of Saturn, the Tower rose over the smaller buildings like a giant shimmering jewel. Housing the administration offices of the Solar Guard and the Space Academy staff, it also contained Galaxy Hall, the museum of space, which attracted thousands of visitors from every part of the Solar Alliance.

Tom Corbett, his eyes caressing the magnificent gleaming Tower, remembered the first time he had seen it. While it hadn't been so long in months or years since becoming a Space Cadet, it seemed as though he had been at the Academy all of his life and that it was his home. In the struggle to develop into a well-knit dependable rocket team, composed of an astrogator, power-deck cadet, and a command cadet, Tom had assumed the leadership of the unit, and the relationship between Astro, Roger Manning, and himself had ripened until they were more like brothers than three young men who had grown up millions of miles apart.

As they rode toward the Tower, the three cadets could see the green-clad first-year Earthworms getting their first taste of cadet life—hours of close-order formations and drills. The nearer they came to the Tower, the more intense and colorful became the activity as the crisscrossing slidewalks carried enlisted guardsmen in their red uniforms, and the officers of the Solar Guard in magnificent black and gold, across the quadrangle to the various dormitories, laboratories, lecture rooms, mess halls, and research rooms. Space Academy was a beehive of activity, with the education of thousands of cadets and the operational mechanics of the Solar Guard going on incessantly, day and night, never stopping in its avowed task of defending the liberties of the planets, safeguarding the freedom of space, and upholding the cause of peace throughout the universe.

As their slidewalk glided over the quadrangle, Roger suddenly turned to his unit mates. "Think we might get assigned to that radar project they're setting up on the Moon?" he asked. "I have a few ideas—"

Tom laughed. "He can't wait until he gets his hands on that new scanner Dr. Dale just finished, Astro," he said with a wink.

The big Venusian snorted. "Can you imagine the ego of that guy? Dr. Dale spends almost a year building that thing, with the help of the leading electronic scientists in the Alliance, and *he* can't wait to *tell* them about a few of *his* ideas!"

"I didn't mean that," complained Roger. "All I said was—"

"You don't have to say a word, hot-shot," interrupted Astro. "I can read your thoughts as though they were flashed on a stereo screen!"

"Oh, yeah!" growled Roger. "You should be that telepathic for your exams. Why didn't you read my thoughts when I beat my brains out trying to explain that thrust problem the other night?" He turned to Tom, shrugging his shoulders in mock despair. "Honestly, Tom, if I didn't know that he was the best power jockey in the Academy, I'd say he was the dumbest thing to leave Venus, *including* the dinosaurs in the Academy Zoo!"

With a hamlike hand Astro suddenly grabbed for Roger's neck, but the wiry cadet dashed along the slidewalk out of reach and the big Venusian rumbled after him. Tom roared with laughter.

As he started to follow his unit mates, one of the passengers on the slidewalk grabbed Tom by the arm and he turned to see Mike McKenny, Chief Warrant Officer in the enlisted Solar Guard and the first instructor the *Polaris* unit had met on their arrival at the Academy.

"Corbett!" demanded McKenny. "Are those two space crawlers still acting like monkeys out of their cages?"

Tom laughed and shook hands with the elderly spaceman. "Yes, sir," he said. "But you could hardly call Astro a monkey!"

"More along the lines of a Venusian gorilla, if you ask me!" snorted McKenny. The short, squat spaceman's eyes twinkled. "I've been hearing some mighty fine things about you three space bongos, Tommy. It's a wonder the Solar Guard didn't give you a unit citation for aiding in the capture of Coxine, the pirate!"

"Thanks, Mike. Coming from you that compliment really means something!"

"Just be sure you keep those two space lunatics in their proper cages," said Mike, indicating Roger and Astro, who at the moment were racing back and forth along the slidewalk bumping passengers left and right, "and you'll all be heroes someday."

"Yes, sir," said Tom. He glanced up, and noticing that he was in front of the Tower building, hopped to the walkway, waving a cheery good-by to Mike. "Blast over to our mess and have dinner with us some night, Mike!" he yelled to the departing figure.

"And interrupt the happiest hours in Astro's life?" bawled Mike. "No thank you!"

Tom laughed and turned to the huge open doorway of the Tower where Roger and Astro waited for him impatiently. In a few moments the three were being carried to the upper floors of the crystal structure by a spiraling band of moving plastic that stretched from the top of the Tower to the many floors below surface level. Tom glanced at his wrist chronograph as they stepped off the slidestairs and headed for Captain Strong's quarters.

"We're about twenty minutes late," he said to Roger and Astro. "Hope Captain Strong's in good spirits!"

"If he isn't," said Roger, "we can—"

"Don't say it," protested Astro. "I only just finished working off my last bunch of galley demerits."

They stopped in front of a door, straightened their uniforms, and then slid the door to one side and stepped smartly into the room. They came to rigid attention before a massive desk, flanked by two wall windows of clear sheet crystal reaching from ceiling to floor. Standing at the window, Captain Steve Strong, *Polaris* unit cadet supervisor, his broad shoulders stretching under his black-and-gold uniform, turned to face them, his features set in grim lines of trouble.

"*Polaris* unit reporting for orders, sir," said Tom. The three cadets saluted crisply.

Strong snapped a return salute and walked to the front of his desk. "Getting pretty big for your britches, aren't you?" he growled. "I've been watching you from this window. I saw the messenger deliver my orders to you, and then, I saw you return to your game and finish it, apparently deciding that the business of the Solar Guard can wait!"

"But, sir—" Roger started to say.

"Close your exhaust, Manning!" snapped Strong. "I'm doing the talking!"

"Yes, sir," stammered the blond-haired cadet.

"Well, Cadets," asked Strong in a silken voice, "if I sent you to Commander Walters' office *on the double*, do you think I could trust you to get there on the *double*?"

"Oh, yes, sir," replied Tom. "*Yes, sir!*" The other two boys nodded violently.

"Then blast out of here and report to Commander Walters for your assignments. Tell him I'll be there in a few minutes."

"Yes, sir!" said Tom, and the three cadets saluted sharply.

"Unit—" bawled Strong, "*dis*—missed!"

Outside in the hall once more, the three cadets wiped their faces.

"Captain Strong definitely was not in a good mood!" commented Roger.

"I've never seen him so angry!" said Tom. "Wonder why."

"Think it might be something to do with our assignments?" asked Astro.

"Never can tell, Astro," said Tom. "And there's only one way to find out. That's to get to Commander Walters' office on the double!"

Without another word the cadets hurried to the slide-stairs, each of them hungry for excitement. Already having participated in three outstanding adventures, the cadet members of the *Polaris* unit were eager to begin a fourth.

CHAPTER 2

"There's no doubt that the success or failure of this project will influence the thinking of the Solar Alliance with regard to further expansion, Governor Hardy," said Commander Walters to the man sitting stiffly in front of him. "And my congratulations on your appointment to head the expedition."

A tall, lean man with iron-gray hair, the commander of Space Academy, sat behind his desk, back ramrod straight in his black-and-gold senior officer's uniform, and casually toyed with a paper cutter on his desk as he spoke to Christopher Hardy, a short, thin man with a balding head and sharp features.

"Thank you, Commander," replied Hardy, in a thin, reedy voice. "It's a great honor and I certainly don't foresee anything that can prevent the expedition from being a complete success. We have the best equipment and, I hope, we'll have the finest men."

The soft chime of a muted bell interrupted Walters as he was about to reply. He opened the switch to the interoffice teleceiver behind his desk, then watched the image of his aide appear on the teleceiver screen.

"What is it, Bill?" asked Walters.

"*Polaris* unit reporting for orders, sir," replied the enlisted guardsman. "Cadets Corbett, Manning, and Astro."

"Very well, send them in," said Walters. Switching off the teleceiver, he turned back to Governor Hardy. "Ever hear of the *Polaris* unit, sir?" he asked.

Hardy paused, rubbing his chin before answering. "No, can't say that I have." He smiled. "From the look on your face, I see I should know about them, though."

Walters smiled back. "I'll just say this about them. Of all the cadet units trained here at the Academy in the last twenty years, these three lads are just about perfection. Just the material you'll need on your initial operation."

Governor Hardy raised his hand in mock protest. "Please! No brain trusts!"

"Well, they have the brains all right." Walters laughed. "But they have something else, an instinctive ability to do the right thing at the right time and that indefinable something that makes them true men of space, rather than ordinary ground hogs simply transplanted into space."

As the commander spoke, the massive door to his office rolled back and Tom, Roger, and Astro stepped in briskly, coming to stiff attention in front of the desk.

"*Polaris* unit reporting for duty, sir," said Tom. "Cadets Corbett, Manning, and Astro."

"At ease," said Walters.

The three boys relaxed and glanced quickly at the governor who had

watched their entrance with interest. Walters came around in front of the desk and gestured toward Hardy.

"Boys, I want you to meet Governor Hardy."

The three cadets nodded respectfully. They knew all about the governor's achievements in establishing the first colony on Ganymede, and his success with the first exploratory expedition to outer space.

"Sit down, boys," said Walters, indicating a near-by couch. "Governor Hardy will explain things from here on in. Where is Captain Strong?"

"He said he'd be along in a few moments, sir," replied Roger.

"Well," said Walters, turning to Hardy, "no sense in beginning without Steve. Only have to repeat yourself." He turned to Astro but not before he saw a grimace of annoyance cloud the governor's face. "How are you making out with your classroom studies, Astro?"

"Uh—ah—" stammered the giant Venusian, "I'm doing all right, sir," he managed finally.

Walters suppressed a smile and turned to Hardy.

"One of the most important aspects of our training methods here at the Academy, Governor," began Walters, returning to his desk, "is for the cadet to learn to depend on his unit mates. Take Astro, for instance."

The two men glanced at the big cadet who shuffled his feet in embarrassment at being the center of attention.

"Astro," continued Walters, "is rather shaky in the field of theory and abstract-scientific concepts. Yet he is capable of handling practically any situation on the power deck of a spaceship. He literally thinks with his hands."

"Most commendable," commented Hardy dryly. "But I should think it would be difficult if he ever came face to face with a situation where his hands were bound." There was the lightest touch of sarcasm in his voice.

"I assure you, Governor," said Walters, "that wouldn't stop him either. But my point is this: Since a cadet unit is assembled only after careful study of their individual psychograph personality charts and is passed and failed as a unit, even though a boy like Cadet Astro might make a failing grade, his unit mates, Cadets Manning and Corbett, can pull him through by making higher passing marks. You see, an average is taken for all three and they pass or fail as a unit."

"Then they are forced, more or less, to depend on each other?" asked Hardy.

"Yes. In the beginning of their training. Later on, the cadets learn for themselves that it is better for all of them to work together."

Once again the bell in back of Walters' desk chimed and he turned to speak on the teleceiver to his aide.

"Captain Strong is here, sir," repeated the enlisted man.

"Send him right in," said Walters. Seconds later the door slid back and Steve Strong entered and saluted.

After the introductions were completed and the Solar Guard captain had

taken a seat with his cadet unit, Commander Walters immediately launched into the purpose of the meeting.

"Steve," he began, "Governor Hardy here has been appointed by the Solar Council to head one of the most important projects yet attempted by the Alliance."

The cadets edged to the front of the couch and listened intently for what the commander was about to say.

"But perhaps I had better let the governor tell you about it himself," concluded Walters abruptly and settled back in his chair.

Captain Strong and the cadets swung around to face the governor, who rose and looked at each of them steadily before speaking.

"Commander Walters stressed the fact that this was an important project," he said finally. "No one can say how important it will be for the future. It might mean the beginning of an entirely new era in the development of mankind." He paused again. "The Solar Alliance has decided to establish a new colony," he announced. "The first colony of its kind outside the solar system in deep space!"

"A star colony!" gasped Strong.

The cadets muttered excitedly among themselves.

"The decision," continued the governor, "has been made only after much debate in the Solar Council Chamber. There have been many arguments pro and con. A week ago a secret vote was taken, and the project was approved. We are going to establish a Solar Alliance colony on a newly discovered satellite in orbit around the sun star Wolf 359, a satellite that has been named Roald."

"Wolf 359!" exclaimed Roger. "That's more than thirteen light years away —" He was stopped by Tom's hand clamped across his mouth.

Governor Hardy looked at Roger and smiled. "Yes, Wolf 359 is pretty far away, especially for a colony. But preliminary expeditions have investigated and found the satellite suitable for habitation, with fertile soil and an atmosphere similar to our own. With the aid of a few atmosphere booster stations, it should be as easy for a colonist to live there as he would on Venus —or any tropical planet."

"Where are you going to get the colonists, sir?" asked Strong.

Hardy began to pace back and forth in front of Walters' desk, waving his hands as he warmed up to his subject. "Tonight, on a special combined audioceiver and teleceiver broadcast to all parts of the Solar Alliance, the president of the Solar Council will ask for volunteers—men who will take man's first step through deep space to the stars. It is a step, which, in the thousands of years ahead, will eventually lead to a civilization of Earthmen throughout all space!"

Tom, Roger, and Astro sat in silent awe as they listened to the plans for man to reach toward the stars. Spacemen by nature and adventurers in spirit, they were united in the belief that some day Earthmen would set foot on all

the stars and never stop until they had seen the last sun, the last world, the last unexplored corner of the cosmos.

"The colonists," continued Hardy, "will come from all over the system. One thousand of them—the strongest and sturdiest men out of the billions that inhabit the planets around us; one thousand, to live on Roald for a period of seven years."

Tom, his eyes bright, asked, "Won't everybody want to go, sir?"

Walters and Hardy smiled. "We expect a rush, Corbett," answered Walters. "You three and Captain Strong have been selected to aid in screening the applicants."

"Will there be any special tests, sir?" asked Strong. "I have to agree with Corbett that just about everyone will want to go."

"Yes, Strong," said Hardy. "Everyone *will* want to go. In fact, we estimate that there will be literally millions of applicants!"

Roger emitted a long, low whistle. "It'll take years to screen all of them, sir."

Hardy smiled. "Not really, Manning. The psychographs will eliminate the hundreds of thousands of misfits, the men who will want to go for selfish reasons, who are running away from the past, or are dissatisfied with their lack of success in life and embittered because of failure. We can expect many criminal types. Those will be eliminated easily. We have set a specific quota from each of the satellites, planets, and asteroid colonies. I have already established the stations for the preliminary screening. We will screen the remainder until we have the required thousand."

"What will our part be, sir?" asked Tom.

"Once each applicant has been approved by the psychographs, his background will be thoroughly investigated. We may find criminal types who show the blackest of careers, but who would turn over a new leaf if given the chance and prove to be more valuable than men with the best of backgrounds who merely want to get away from it all. We don't want that kind of colonist. We want people who have faith in the project; people who are not afraid of work and hardships. Your screening job will be simple. Each of you has a special talent which Commander Walters feels is outstanding. Corbett in leadership, administration, and command; Manning in electronics; Astro in atomic power and propulsion. You will talk to the applicants and give them simple tests. An important point in any applicant's favor will be his ability to improvise and handle three, four, or five jobs, where a less imaginative person would do but one. Talk to them, sound them out, and then write your report. Captain Strong will review your opinions and make recommendations to me. I will finally approve or disapprove the applications."

"Will this cost the applicants anything, sir?" asked Roger. "For instance, will the rich applicants have a better chance than the poor?"

Hardy's face turned grim. "Only the people that fit our standards will be allowed to go, Manning. Regardless."

"Yes, sir," said Roger.

"The Solar Alliance," continued Hardy, "has established a fund for this project. Each applicant will be lent as much in material as he needs to establish himself on Roald. If he operates an exchange, for instance, selling clothes, equipment, or food, then the size of his exchange will determine the size of the loan. He will repay the Solar Alliance by returning one-fourth of his profits over a period of seven years. Each colonist will be required to remain on the satellite for that seven-year period. After that, should he leave, he would be required to sell all his rights and property on Roald."

"And the farmers, sir," asked Tom, "and all the rest. Will they all be treated the same way?"

"Exactly the same, according to their individual abilities. Of course we wouldn't take a man who had been a shoemaker and advance him the capital to become a farmer."

"Will the quota of one thousand colonists include women and children?" asked Astro.

"No, but allowances have been made for them. One thousand colonists means one thousand men *who can produce*. However, a man may take his family," Hardy went on, adding, "providing, of course, that he doesn't mean twenty-three children, aunts, uncles, and so forth."

The three cadets looked at each other dumfounded. The very idea of the project was staggering, and as Strong, Hardy, and Commander Walters began to discuss the details of the screening system, they turned to each other excitedly.

"This is the greatest thing that's happened since Jon Builker made his trip into deep space!" whispered Tom.

"Yeah," nodded Astro, "but I'm scared."

"About what?" asked Roger.

"Having the responsibility of saying No to a feller that wants to go."

The big cadet seemed to be worried and Tom attempted to explain what the job would really be.

"It's not a question of saying an outright No," said Tom. "You just ask the applicant about his experience with motors and reactors to see if he really knows his stuff."

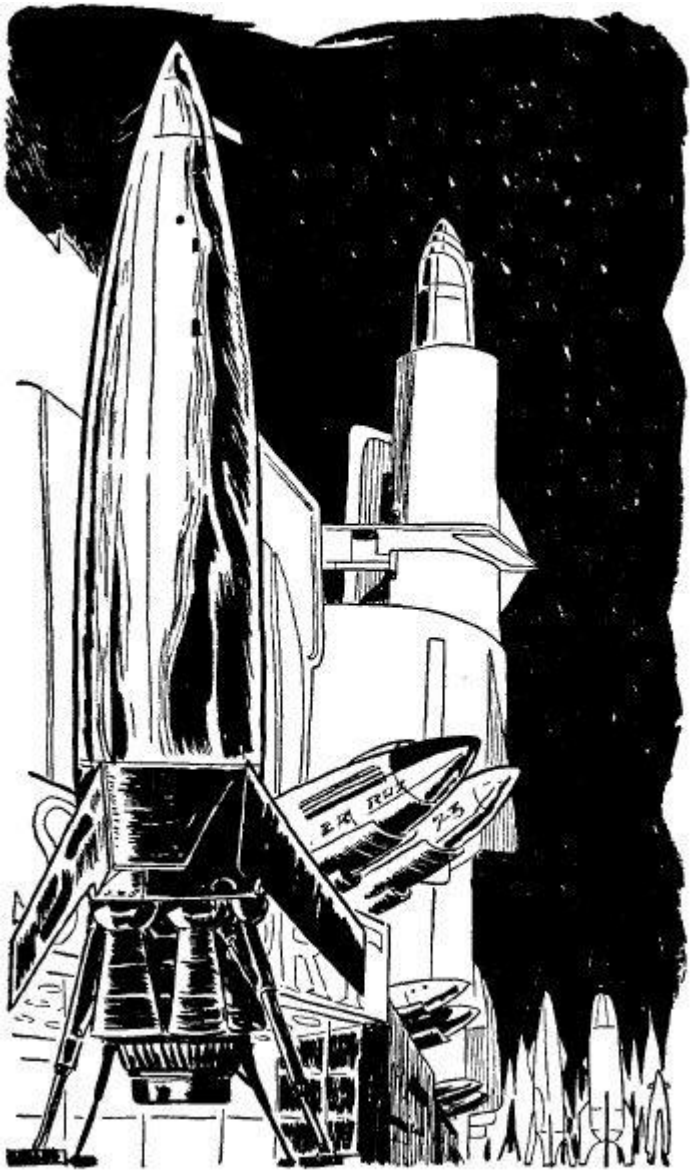
Astro seemed to accept Tom's explanation, but he still seemed concerned as they all turned to Commander Walters, who had finished the discussion around the desk and was giving Captain Strong his orders.

"You and the cadets, along with Governor Hardy, will blast off tonight and go to Venusport for the first screenings." He faced the cadets. "You three boys have a tremendous responsibility. In many cases your decisions might mean the difference between success or failure in this mission. See that you make good decisions, and when you've made them, stick by them. You will be under the direct supervision of Captain Strong and Governor Hardy. This is quite different from your previous assignments, but I have faith in you. See

that you handle yourselves like spacemen."

The three cadets saluted sharply, and after shaking hands with their commander, left the room.

Later that evening, their gear packed, the three members of the *Polaris* unit were checked out of the Academy by the dormitory officer and were soon being whisked along on a slidewalk to the Academy spaceport. As they neared the spacious concrete field, where the mighty fleet of the Solar Guard was based, they could see the rows of rocket cruisers, destroyers, scouts, and various types of merchant space craft, and in the center, on a launching platform, the silhouette of the rocket cruiser *Polaris* stood out boldly against the pale evening sky. Resting on her directional fins, her nose pointed skyward, her gleaming hull reflecting the last rays of the setting sun, the ship was a powerful projectile ready to blast off for distant worlds.



Her nose pointed skyward, the Polaris was ready to blast off

Reaching the *Polaris*, the three cadets scrambled through the air lock into the spaceship and prepared for blast-off.

On the control deck, Tom began the involved check of the control panel. One by one, he tested the dials, gauges, and indicators on the instrument panel that was the brains of the mighty ship.

On the radar bridge, above the control deck, Roger adjusted the sights of the precious astrogation prism and took a checking sight on the Pole Star to make sure the instrument was in true alignment. Then turning to the radar scanner, the all-seeing eye of the ship, he began a slow, deliberate tracking of each circuit in the maze of wiring.

And below on the power deck, Astro, stripped to the waist, a leather belt filled with the rocketman's wrenches and tools slung around his hips, tuned up the mighty atomic engines. He took longer than usual, making sure the lead baffling around the reactor units and the reaction chamber was secure, before firing the initial mass.

Finally Tom's voice crackled over the intercom, "Control deck to all stations. Check in!"

"Radar bridge, aye!" came Roger's reply. "Ready for blast-off!"

"Power deck, aye!" said Astro, his booming voice echoing through the ship. "Ready for blast-off!"

"Control deck, ready for blast-off," said Tom, and then turned to the logbook and jotted down the time in the ship's journal. The astral chronometer over the control board read exactly 1350 hours.

Fifteen minutes later Captain Strong and Governor Hardy climbed aboard and Tom received the order to raise ship.

The young curly-haired cadet turned to the control board and flipped on the teleceiver. "Rocket cruiser *Polaris* to spaceport control tower," he called. "Request blast-off orbit and clearance!"

The traffic-control officer in the spaceport tower answered immediately. "Control tower to *Polaris*. You are cleared for blast-off at 1405 hours, orbital tangent 867."

Tom repeated the instructions and turned to the intercom and began snapping out orders. "Power deck, energize the cooling pumps!"

"Power deck, aye!" replied Astro. The slow whine of the powerful pumps began to scream through the ship. Tom watched the pressure indicator and when it reached the blast-off mark called to Roger for clearance.

"All clear, forward and up!" declared Roger.

"Feed reactant at D-9 rate!" ordered Tom. And far below on the power deck, Astro began to feed the reactant energy into the firing chambers.

Hardy looked at Strong and nodded in appreciation of the cadets' smooth efficient work. They strapped themselves into acceleration cushions and watched the red second hand of the astral chronometer sweep around, and then heard Tom counting off the seconds.

"Blast off—" bawled Tom, "minus five—four—three—two—one—*zeroooo!*"

The giant ship lurched off the blast-off platform a few feet, the exhaust of

the powerful rockets deflected against the concrete surface. Then, poised delicately on the roaring rockets, the mighty ship picked up speed and began to accelerate through the atmosphere.

Pushed deep in his acceleration chair in front of the control board, unable to move because of the tremendous pressure against his body, Tom Corbett thought about his new adventure. And as the ship hurtled into the black velvet depths of space, he wondered what the future held for him as he and his unit mates began a new adventure among the stars.

CHAPTER 3

"Control deck to power deck, check in!" Tom's voice crackled over the power-deck loud-speaker and Astro snapped to quick attention.

"Power deck, aye!" replied the giant Venusian into the intercom microphone. "What's up?"

"Stand by for course change," said Tom. "Roger's picked up a meteor on the radar scanner and—"

"Here's the course change," Roger's voice broke in over the intercom. "Three degrees up on the plane of the ecliptic and five degrees starboard!"

"Get that, Astro?" snapped Tom. "Stand by for one-quarter burst on steering rockets!"

"One-quarter—right!" acknowledged the power-deck cadet and turned to the massive panel that controlled the rockets.

On the control deck Tom Corbett continued talking to Roger. "Relay the pickup to the control-deck scanner, Roger," he ordered. "Let me take a look at that thing."

In a moment the thin sweeping white line on the control-deck scanner swept around the green surface of the screen, picking out the blip that marked the meteor. Tom watched it for a moment and then barked into the intercom, "Stand by to execute change course!"

He watched the meteor a few more seconds, making sure the course change would take them out of its path, and then gave the command. "Fire!"

Before he could draw another breath, Tom felt himself pressed into his seat as the *Polaris* quickly accelerated and curved up and away from the onrushing meteor in a long, smooth arc.

Captain Strong suddenly stepped through the hatch into the control deck. Glancing quickly at the scanner screen, he saw the white blip that was the meteor flashing away from the *Polaris* and he smiled.

"That was nice work, Corbett!" said Strong. "Get us back on course as soon as you can. Governor Hardy wants to get to Venusport as quickly as possible."

"Shall I tell Astro to pour on extra thrust, sir?" asked Tom.

"No, just maintain standard full space speed. No need to use emergency power unless it's really an emergency."

"Yes, sir," said Tom.

Strong walked around on the control deck, making a casual check of the ship's operation. But he knew he wouldn't find anything to complain about. Past experience had taught him that the three cadets kept a tight ship. At the sound of the hatch opening, he turned to see Governor Hardy standing just inside the hatch.

"I have to compliment you, Captain," Hardy said as he watched Tom operate the great control panel. "Your cadets really know their business. You've trained them well."

"Thank you, sir," replied Strong, "but they did it themselves. One thing I've learned since I've become an instructor at the Academy and that is you can't make a spaceman. He's born with the feeling and the instinct, or he isn't a spaceman."

Hardy nodded. "I've got some important messages to send out, Captain. I'd like to use the teleceiver for a while."

"Of course, sir," said Strong. "Right up that ladder there." The Solar Guard captain pointed to the ladder leading to the radar deck. "Manning's on duty now and will take care of you, sir."

"Thank you," said the governor, turning to the ladder.

A moment later, as Captain Strong and Tom were idly discussing the forthcoming screening operations on Venusport, they were surprised to see Roger climb down the ladder from the radar bridge.

"What are you doing down here, Manning?" inquired Strong. "I thought you were sending out messages for Governor Hardy."

Roger dropped into the co-control pilots' seat and shrugged. "The governor said he'd handle it. Said the messages were top secret and that he wouldn't *burden* me with their contents, since he knew how to operate a teleceiver!"

Puzzled, Tom looked at Roger. "What could be so secret about this mission?" he asked.

"I don't know," answered Roger. "After that speech the president of the Solar Council made the other night, the whole Alliance must know about the project, the screening, and practically everything else."

Strong laughed. "You space brats see adventure and mystery in everything. Now, why wouldn't a man in charge of a project as large as this have secret messages? He might be talking to the president of the council!"

Tom blushed. "You're right, sir," he said. "I guess I let my imagination run riot."

"Just concentrate on getting this wagon to Venus in one piece, Corbett, and leave the secret messages to the governor," joked Strong. "And any time you get too suspicious, just remember that the governor was appointed head of this project by the Solar Alliance itself!"

Blasting through space, leaving a trail of atomic exhaust behind her, the *Polaris* rocketed smoothly through the dark void toward the misty planet of Venus. In rotating watches, the cadets ran the ship, ate, slept, and spent their few remaining spare hours attending to their classroom work with the aid of soundscribers and story spools. Each of them was working for the day when he would wear the black-and-gold uniform of the Solar Guard officer that was respected throughout the system as the mark of merit, hard work, distinction, and honor.

Once, Captain Strong and Astro donned space suits and went outside to inspect the hull of the *Polaris*. The ship had passed through a swarm of small meteorites, each less than a tenth of an inch in diameter but traveling at high speeds, and some had pierced the hull. It was a simple and quick job to seal the holes with a special atomic torch.

Like a giant silver bullet speeding toward a bull's-eye, the rocket ship pinpointed the planet Venus from among the millions of worlds in space and was soon hovering over Venusport, nose up toward space, ready for a touchdown at the municipal spaceport. As the braking rockets quickly stopped all forward acceleration, the main rockets were cut in and the giant ship dropped toward the surface of the tropical planet tailfirst.

Tom's face glowed with excitement as he adjusted one lever and then another, delicately balancing the ship in its fall, meanwhile talking into the intercom and directing Astro in the careful reduction of thrust. On the radar deck Roger kept his eyes glued to the radar scanner and posted Tom on the altitude as the ship drew closer and closer to the ground.

"One thousand feet!" yelled Roger over the intercom. "Nine hundred—eight—seven—six—"

"Open main rockets one half!" called Tom. "Reduce rate of fall!"

The thunder of the rockets increased and the mighty ship quivered as its plummeting descent was checked slightly. Tom quickly adjusted the stabilizer trim tabs to keep the ship perpendicular to the ground, then watched the stern scanner carefully as the huge blast-pitted concrete ramp loomed larger and

larger.

"Five hundred feet to touchdown," tolled Roger in more slow and measured tones. "Four hundred—three—two—"

On the scanner screen Tom could see the exhaust flare begin to lick at the concrete ramp, then splash its surface until it was completely hidden. He grasped the main control switch tightly and waited.

"One hundred feet," Roger's voice was tense now. "Seventy-five, fifty—"

Tom barked out a quick order. "Blast all rockets!"

In immediate response, the main tubes roared into thunderous life and the *Polaris* shook as the sudden acceleration battled the force of gravity. The ship's descent slowed perceptibly until she hovered motionless in the air, her stabilizer fins only two feet from the concrete ramp.

"Cut all power!" Tom's voice blasted through the intercom. A split second later there was a deafening silence, followed by a heavy muffled thud and the creak of straining metal as the *Polaris* came to rest on the ramp.

"*Touchdown!*" yelled Tom. He quickly cut all power to the control board and watched as one by one the gauges and dials registered zero or empty. The cadet stood up, noticed the time on the astral chronometer, and turned to face Captain Strong, rising from the chair beside him.

"*Polaris* made touchdown, planet Venus, at exactly 1543, sir," he said and saluted crisply.

Strong returned the salute. "Good work, Corbett," he said. "You handled her as though she was nothing more than a baby carriage!"

Roger came bouncing down the ladder, grinning. "Well," he said, "we're back on the planet where the monkeys walk around and call themselves men!"

"I heard that, Manning!" roared Astro, struggling through the hatch from the power deck. "One more crack like that and I'll stand you on your head and blast you off with your own space gas!"

"Listen, you overgrown Venusian ape," replied Roger, "I'll—"

"Yeah—" growled Astro, advancing on the smaller cadet. "You'll what?"

"All right, you two!" barked Strong. "Plug your jets! By the craters of Luna, one minute you act like hot-shot spacemen, and the next, you behave like children in a kindergarten!"

Suddenly the compartment echoed to hearty laughter. The cadets and their skipper turned to see Governor Hardy standing on the radar-bridge ladder, brief case in hand, roaring with laughter. He climbed down and faced the three cadets.

"If kindergarten behavior will produce spacemen like you, I'm all for it. Congratulations, all three of you. You did a good job!"

"Thank you, sir," said Tom.

Hardy turned to Strong. "Captain, I'm going ahead to the Solar Council building and get things set up for the screening. I imagine there are many anxious colonists ready to be processed!"

As Strong and the cadets came to attention and saluted, Governor Hardy

turned and left the control deck.

Strong turned to the cadets. "From now on, you might as well forget that you're spacemen. Report to the Administration Building in one hour. You're going to do all your space jockeying in a chair from now on!"

* * * * *

For the next week, the three Space Cadets spent every waking hour in the Solar Council Administration Center, interviewing applicants who had passed their psychograph personality tests. Endlessly, from early morning until late at night, they questioned the eager applicants. Ninety-nine out of one hundred were refused. And when they were, they all had different reactions. Some cried, some were angry, some threatened, but the three cadets were unyielding. It was a thankless job, and after more than a week of it, tempers were on edge.

"What would you do," Roger would ask an applicant, "if you were suddenly drifting in space, in danger, and found that you had lost the vacuum in your audio tubes? How would you get help?"

Not one in over three hundred had realized that space itself was a perfect vacuum and could be substituted for the tubes. Roger had turned thumbs down on all of them.

Astro and Tom found their interviews equally as rough. One applicant admitted to Tom that he wanted to go to the satellite to establish a factory for making rocket juice, a highly potent drink that was not outlawed in the solar system, but was looked on with strong disfavor. When Tom turned down his application, the man tried to get Tom to enter into partnership with him, and when Tom refused, the man became violent and the cadet had to call enlisted Solar Guardsmen to throw him out.

While Tom and Roger made decisions quickly and decisively, Astro, on the other hand, patiently listened to all the tearful stories and sympathized with the applicants when they were unable to tear down a small reactor unit and rebuild it blindfolded. Painfully, sometimes with tears in his own eyes, he would tell the applicant he had failed, just when the would-be colonist would think Astro was going to pass him.

The three cadets were doing their jobs so well that in the one hundred and fifty-three applications approved by them Strong did not reject one, but sent them all on to Governor Hardy for final approval.

On the morning of the tenth day of screening, Hyram Logan and his family entered Roger's small office. A man of medium height with a thick shock of iron-gray hair and ruddy, weather-beaten features Logan looked as though he was used to working in the outdoors. Flanked by his son and daughter, he

stood quietly before the desk as the young cadet, without looking up, scanned his application quickly.

"How old are the children?" asked Roger brusquely.

"I'm nineteen," replied a low musical voice, "and Billy's twelve."

Roger's head suddenly jerked up. He stared past Hyram Logan and a small towheaded boy, to gaze into the warm brown eyes of Jane Logan, a slender, pretty girl whose open, friendly features were framed by neatly combed reddish blond hair. Roger sat staring at her, openmouthed, until he heard a loud cough and saw Logan trying to hide a smile. He quickly turned back to the application.

"I see here you're a farmer, Mr. Logan," said Roger. He stole a glance at the young girl, but Billy saw him and winked. Roger flushed and turned to Logan as the older man answered his questioner.

"That's right," said Logan. "I'm a farmer. Been a farmer all my life."

"Why do you want to go to Roald, Mr. Logan?" asked Roger.

"Well," said Logan, "I have a nice piece of land south of Venusport a ways. Me and my wife developed it and we've been farming it for over twenty-five years. But my wife died last year and I just sort of lost heart in this place. I figured maybe that new satellite will give me a start again. You'll have to have farmers to feed the people. And I can farm anything from chemicals to naturals, in hard rock or muddy water." He paused and clamped his jaws together and said proudly, "My father was a farmer, and his father before him. One of the first to put a plow into Venusian topsoil!"

"Yes—uh—of course, Mr. Logan," mumbled Roger. "I don't think there'll —er—be any trouble about it."

The young cadet hadn't heard a word Hyram Logan had said, but instead had been gazing happily into the eyes of Jane Logan. He stamped the application and indicated the door to Tom's screening room, following the girl wistfully with his eyes. He muttered to himself, "There ought to be more applicants like Farmer Logan and his daughter for the brave new world of Roald!"

"And if there were, Cadet Manning," roared Captain Strong, standing in the doorway from the hall, "we'd probably wind up with a satellite filled with beautiful women!"

"Yes, sir! Er—no, sir," stuttered Roger, jerking himself to attention. "I mean, what's wrong with that?"

"By the rings of Saturn," declared Strong, "you'll never change, Manning!"

Roger grinned. "I hope not, sir."

The door to Tom's room opened and the curly-haired cadet walked in holding an application.

"Captain Strong," he said, "could I see you a minute?"

"Sure, Tom. Any trouble?" asked Strong.

Tom handed him the application silently and waited. Strong read the sheet and turned to Tom. "You know what to do in a case like this, Tom. Why come

to me?"

Tom screwed up his face, thinking. "I don't know, sir. There's something different about this fellow. Astro passed him with flying colors. Said he knew as much about a reactor unit as he did. Roger passed him too."

"Who is it?" asked Roger. Strong handed him the paper.

"Sure, I passed him," said Roger. "That guy really knows his electronics."

Strong looked at Tom. "How do you feel about it, Tom?"

"Well, sir," began Tom, "I would pass him in a minute. He's had experience handling men and he's been in deep space before. He's logged an awful lot of time on merchant spaceships, but—"

"But what?" asked Strong. He took the paper and studied it again. "Looks to me as if he's what we're looking for," he said.

"I know, sir," said Tom. "But why would a man like that, with all that experience, want to bury himself on Roald? He could get practically any job he wants, right here in the system."

"Ummh," mused Strong. He reread the application. In the blank space for reason for going, the applicant had written simply: *Adventure.* He handed the application back to Tom. "I think I see what you mean, Tom. It does look too good. Better not take a chance. Seven years is a long time to get stuck with a misfit, or worse, a—" He didn't finish, but Tom knew he meant a man not to be trusted.

"Tell Paul Vidac his application has been rejected," said Strong.

CHAPTER 4

"You mean Captain Strong has been recalled to the Academy?" gasped Roger.

"That's right," replied Tom. "He had a talk with Governor Hardy last night and this morning he took the jet liner back to Earth. Special orders from Commander Walters."

"Well, blast my jets!" exclaimed Astro. "Wonder what's up?"

"I don't know," said Tom. "But it must be something more important than the Roald project for him to pull out now!"

"It might have something to do with the project, Tom," suggested Roger.

Tom shook his head. "Maybe, but it just isn't like Captain Strong not to say anything to us before he left. I wouldn't have known about it if one of the enlisted guardsmen hadn't asked me if we were going with him."

Astro and Roger looked at each other. "You mean," asked Roger, "Captain Strong didn't tell you he was going?"

"That's just it!" replied Tom. "We've been traveling all over space together screening the applicants, and then Captain Strong just leaves when we start the final screening."

The three cadets were seated in a snack shop in Luna City on the Moon, sipping hot tea and eating spaceburgers. For six weeks they had been interviewing the applicants for the new satellite colony and were getting near the end. Their task had gone fairly smoothly except for some difficulty on Mars when Strong and the cadets had rejected scores of applicants with shady backgrounds; criminals and gamblers; spacemen who had had their space papers picked up for violation of the space code, and men who had been dismissed from the enlisted Solar Guard for serious misconduct. But now, finally, the quotas of all the colonies and planets but Luna City on the Moon had been filled. Soon the expedition would blast off for Roald.

"Well," said Tom, sipping the last of his tea, "we have a heavy day ahead of us tomorrow. I guess we'd better get back to the *Polaris* and sack in."

"Yeah," agreed Astro, tossing some credits on the counter and following Tom and Roger out into the street. They walked past the shops, their blue cadet uniforms reflecting the garish colors of the nuanium signs in the shopwindows. At the first corner they hailed a jet cab and were soon speeding out of the city toward the municipal spaceport.

The boys didn't talk much on the way out, each wondering why Captain Strong was recalled on such short notice, and why he had left without saying good-by to them. They knew they would see him in a few days when the processing of the Luna City applicants was over and they would return to

Space Academy, but the relationship between the cadets and the Solar Guard captain had developed into a deeper association than just a cadet crew and officer supervisor. They were friends—spacemates! And the boys sensed trouble ahead when they arrived at the Luna City spaceport. They stood in the shadow of the *Polaris* and stared into the sky to watch the globe that was Earth revolve in the depths of space. The outline of the Western Hemisphere, flanked by the shimmering Atlantic and Pacific oceans, could be seen clearly. It was a breath-taking view of a world that had given birth to all the men who now took the travel from one world to another for granted.

"Gosh," said Tom, staring at the magnificent sight. "I see the Earth like that every time we blast off from Luna. I should be used to it by now, but—" he stopped suddenly and sighed.

"I know what you mean, Tom," said Astro. "It's the same with me. Gets me right here," and he put his hand to his heart.

"You don't know your anatomy yet, pal," drawled Roger. "Move your hand down a couple of inches. Things only get you in the stomach."

"Oh, is that a fact?" growled the big Venusian. Suddenly, without any apparent effort, he picked up the blond cadet and held him high in the air. "Which way shall I drop him, Tom? On his head or the seat of his pants? Seems to me it won't make much difference."

Tom laughed at the spectacle of Roger flailing the air helplessly, then suddenly stopped and grabbed Astro by the arm. "Wait, Astro," he called. "Look! There's someone in the ship!"

"What?" cried Astro, dropping Roger and turning to the *Polaris*. The three cadets saw light gleaming from the control-deck viewport.

"Well, I'll be a space monkey!" exclaimed Roger. "Who could it be?"

"I don't know," replied Tom. "Governor Hardy is at the Luna City Hotel, and Captain Strong is the only one besides us who has the light key to open the air lock!"

"Well, what're we waiting for!" said Roger. "Let's find out what's going on!"

The three cadets climbed into the ship and raced up the companionway to the control deck.

"No one here," announced Roger as he stepped through the hatch. He turned to Astro. "You were the last one out of the ship. Are you sure you locked it up?"

"The ship was locked, Cadet Manning!" said a voice in back of them. The three cadets whirled around to face a tall, wiry man with dark hair, dressed in civilian clothes and holding a cup of coffee. He smiled at the three startled cadets and casually drained the cup. "I opened her," he continued in a deep voice. "Governor Hardy gave me the key."

"Who are you?" asked Tom, almost indignant at the man's self-assurance. And then he stopped, frowning, "Say, haven't I seen you before?"

"You're right, Tom," cried Astro. "I've seen him too!"

"Who are you, mister?" demanded Roger.

The man turned back to the messroom just off the control deck, put the coffee cup down on the table, and returned to face the three cadets. "My name is Paul Vidac. I'm the new lieutenant governor of Roald."

"You're what?" gasped Tom.

"You're space happy!" exclaimed Roger. "Your application was refused. Captain Strong rejected it himself."

"Fortunately for the project of Roald," said Vidac with a half-smile playing at his lips, "Captain Strong has been taken off the Roald project." He paused and lounged against the bulkhead to announce, "I have replaced him."

"You couldn't replace Captain Strong digging a hole in the ground, mister!" snapped Roger sarcastically.

"You might have taken over his work, but you couldn't touch him with an atomic blaster," growled Astro. "Captain Strong is—"

"Wait, fellows," said Tom. "Let's find out what this is all about."

"That's all right, Corbett," Vidac broke in. "I appreciate your allegiance. I wouldn't like anyone who would accept another person in place of a friend without putting up a beef." His voice was as smooth as the purr of a cat.

"How could you have replaced him, mister?" asked Tom, with just a little more self-control than Roger or Astro had shown.

"Very simple," said Vidac. "Governor Hardy has the final say on all applications, as you know. He has unquestioned authority to appoint, approve, and select anyone he wants. In view of my experience, Governor Hardy was delighted to have me join the Roald expedition."

The three cadets looked at each other in bewilderment. Finally Tom walked over and stuck out his hand. "We're glad to have you aboard, sir." He managed a smile.

Reluctantly Roger and Astro followed suit.

"Thank you, boys," said Vidac with a smile. "I'm sure we'll learn to work together smoothly in these last few days. There are a few changes to be made of course. But it really doesn't matter. You'll be finished with the screening soon."

"What kind of changes, sir?" asked Tom.

"Oh, just routine," answered Vidac. "Instead of you seeing the applicants first, I will speak with each one briefly before sending them on to you."

"What's the matter with the way we've been doing it?" asked Roger with a slight edge to his voice that did not go unnoticed. Vidac looked at the cadet. His mouth was smiling, but his eyes were hard.

"I think, Cadet Manning," purred Vidac, "that it will be better for you not to question me, or any of my practices. A Space Cadet's first rule is to take orders, *not* to question them."

Tom was thinking quickly. It was obvious that Vidac had gone straight to Governor Hardy and had prevailed on him to review his application. Tom could see how Vidac's background would impress the governor. He

remembered that there wasn't any real evidence against Vidac. In fact, Tom thought, it was only because Vidac's background was so superior to most of the applicants that he had aroused suspicion at all. Now, with Captain Strong recalled to the Academy, it was only natural for the governor to get the best man for the job. Tom was ready to admit that Vidac's background certainly spoke for itself.

He looked at the man and grinned. "I'll tell you honestly, sir. When Captain Strong refused your application, it was because—well—"

Vidac was watching Tom shrewdly. "Well?" he asked quietly.

"It was because we couldn't understand how a man like you would want to bury yourself on a satellite for seven years when you could get most any kind of job you would want, right here in the Alliance."

Vidac hesitated just a second, and then his face broke into a broad grin. "You know, Corbett, you're right! Absolutely right! I can see where you three boys have done a fine job for the governor." He slapped Astro on the back and threw his arm around Tom's shoulder, speaking to them in a suddenly confidential tone. "As a matter of fact, I was offered the directorship of the Galactic space lanes only last week," he said. "Do you know why I refused it?"

Tom shook his head.

"Because I'm a spaceman, just like yourselves." He looked at Astro. "Cadet Astro, would you take a job with an outfit and give up space to sit behind a desk eight hours a day?"

"No, sir!" said Astro emphatically.

"Well, that's exactly the way I feel. But I commend you on your observations about me, Corbett. I think I would have been a little suspicious myself."

The three cadets smiled.

"Thank you, sir," said Tom. "And forget what we just said. If Governor Hardy's okayed you, that's good enough for us."

"Thanks, Corbett," said Vidac. "I appreciate that."

"I guess we'd better turn in now," said Roger. "We have a hard day ahead of us. Those applicants come at you like dinosaurs."

"Right!" said Vidac. "I'll take over Captain Strong's quarters. See you in the morning."

The three cadets went to their quarters without saying a word. When the hatch was closed, Roger turned and faced his unit mates.

"Well, it sure looks like we made a mistake about that spaceman!" he said. "I think he's all right!"

"Yeah," said Astro, "you can't blame a guy for not wanting to take a desk job."

Tom merely sat in his bunk, starting to pull off one of his soft leather space boots. He held it a moment, thinking, and then looked up at his two unit mates. "You know, I think I'm going to have a talk with the governor."

"About what?" asked Roger.

"Vidac," said Tom simply.

"What could you say that he doesn't already know?" asked Astro.

"Why—" Tom stopped. After a moment he dropped his boot to the deck, looked up at Roger and Astro, and smiled. "Nothing, I guess."

"Come on," said Roger, yawning. "Let's turn in. Just the thought of facing those applicants tomorrow makes me tired."

Astro turned out the light and hopped into bed. Tom lay in his bunk, hands under his head, wondering about Vidac, and then he began to think about the colony of Roald. He lay a long time, thinking about the fine people who were giving up comfortable homes, successful businesses. He thought of Hyram Logan and family; the shopkeeper from Titan with three sets of twin boys; the Martian miner who had spent twenty-five futile years searching for uranium in the asteroid belt. They were all ready to go over fifty billion miles into deep space and begin their lives again. Tom shook his head. He wondered if he had a choice whether he would chance the mystery and danger of deep space.

With the steady hum of the electronic generator on the power deck droning in his ears the curly-haired cadet soon fell asleep.

* * * * *

"What did you say your name was?" asked Roger of the applicant standing before him. He was a man badly in need of a shave and his clothes looked as if he had slept in them. He was the sixty-sixth applicant Roger had seen that morning.

"Tad Winters," replied the man in a surly tone, "and hurry up with this business. I haven't got all day!"

Roger looked up sharply. "You'll wait until I've had time to check your application, sir. Or you can leave right now!"

"Listen, punk," snarled Winters, "I just saw your boss—"

"My boss?" asked Roger, puzzled.

"Yeah," said Winters. "Your boss, Vidac! And he said I was to tell you to pass me!"

Roger stood up and looked the man in the eye. "You've had your space papers suspended twice, Mr. Winters. Once for smuggling, and once for insubordination on a deep-space merchantman. Your application to go to Roald is rejected."

"We'll see about that!" growled Winters. "Gimme that, you space jerk!" He snatched the application out of Roger's hand and stomped out of the room.

Roger smiled. It was nothing new to him for the applicants to threaten him and seek higher authority. He buzzed for the next applicant.

Meanwhile, Tom was interviewing a small man with heavy eyebrows and a thin face. One side of his mouth twitched continually, making the man look as though he were laughing. Tom read over the application and looked up quickly.

"Mr. Bush," said Tom, "you've stated here that you were once a messenger for the Spaceways Bonded Messenger Service and that you were dismissed. Why was that?"

Ed Bush's mouth twitched as he played with his hat and stirred uneasily in his chair. "I was framed," he said finally.

"Framed?" asked Tom.

"Yeah, framed!" snapped Bush. "I was taking a credit pouch to Venusport from Atom City when it was stolen from me."

"Could you prove it?" asked Tom.

"How could I prove it when I don't know what happened to it?" growled Bush. "Listen, Corbett, you can't hold a little thing like that against me. A man is entitled to one mistake—"

Tom held up his hand. "Mr. Bush, you also had your space papers suspended for six months and were caught during the suspension blasting off with false papers. Was that a mistake?"

"Well, what do you expect a man to do? Go hungry? I've been a spaceman longer than you've been alive. I had to have a job. There wasn't anything else I could do." His voice trailed off into a whine.

"But you did, willfully and with full knowledge of your act, violate the space code by using false papers, didn't you?" pursued Tom.

"Yeah, but—" whined Bush.

"I'm sorry," said Tom, standing up. "Your application has been rejected."

Bush stood up and snatched the application from Tom. His mouth began to twitch furiously. "Why, you little—"

"That's enough, Bush!" snapped Vidac, who had suddenly entered the room. "Leave your application on the desk and get out!"

Bush turned and looked at Vidac, nodded, and glared at Tom before stalking from the room. Vidac smiled at Tom's questioning look and walked over. He sat on the edge of Tom's desk and picked up Bush's application.

"Funny thing about Bush, Tom," Vidac mused.

"What, sir?" asked Tom.

"Notice the nervous twitch he has on the side of his face?"

"Yes, sir," said Tom.

"I've known Bush a long time. Many years. He used to be the happiest little space joker in the system, singing all the time, playing a concertina. And then he lost that credit pouch. It bothered him real bad."

"I guess it would, sir," said Tom.

"And then he got caught blasting off with false papers and of course that made him a marked man. He developed the nervous twitch right after that. He's a good man, Tom. And I think we ought to give him another chance."

Tom gasped. "But, sir, he's broken the space code!"

Vidac looked at Tom and smiled. "I know, Tom, and it's a serious thing. But I think he deserves another chance."

"We've refused people for a lot less than that, sir," said Tom emphatically, "before you came."

Vidac's face hardened. "I said we were going to give him another chance!"

Tom met the lieutenant governor's eyes coolly. "Yes, sir." He stamped the application and handed it to Vidac.

"It's pretty easy to sit in judgment of others, Tom," said Vidac, smiling again. "If there are any more—ah—questionable applicants, I suggest you send them to me. And if I want to give them another chance, you will, of course, follow orders."

"Very well, sir," replied Tom, tight-lipped. "If you say so."

Vidac's eyes hardened. "*I say so*, Corbett!" He turned and walked from the room.

Tom sat down weakly. As he was about to buzz for the next applicant, the door burst open and Roger came into the room. The blond-haired cadet's lips

were pulled tight in a grim line.

"There's something rocket-blasting screwy around here, Tom!" he exclaimed.

"What do you mean?" asked Tom.

"I just rejected a real low-down space crawler—a guy named Tad Winters."

"Yes?" Tom was alert, anticipating Roger's answer.

"He went to Vidac and came back later with his application approved."

Tom slammed his fist on the desk. "That proves it! Governor Hardy has to be told what's going on!" He flipped on the teleceiver near by and asked the central communications operator to connect him with the governor's office. In a moment the face of Christopher Hardy sharpened into focus on the screen.

"What is it, Corbett?" asked the governor.

"I'd like to talk to you, sir, if I may. Something's just come up and I'm not sure what to do."

"Well, whatever it is, I'm sure Governor Vidac will be able to take care of it. Speak to him."

Tom gulped and glanced at Roger. "But, sir," he stammered, "it's—it's—"

"It's what, Corbett? Hurry, lad! I haven't got all day."

"What I have to say is—is—about the lieutenant governor, sir," Tom managed finally.

"Now listen, son," said Hardy, "I have a lot of confidence in you three boys. You've all done a fine job. But I screened Mr. Vidac myself, and I'm satisfied that he is just the man I need. After Captain Strong was recalled to the Academy, I had to have a man to take over for him. And I am satisfied that Mr. Vidac is about as fine a man as I could get! Now don't bother me again. You've done a fine job, as I said. But don't let it go to your heads!"

"Yes, sir," said Tom, clamping his teeth together. "Very well, sir!"

"One more thing," said Hardy. "We've about finished here at Luna City. When you've processed the last of the applicants, prepare the *Polaris* for a return trip to Space Academy." He paused and smiled. "I think I might be able to convince Commander Walters you need a two weeks' leave!" He smiled again and then his face disappeared from the screen.

Tom looked up at Roger. "I don't like it, Roger. Maybe I'm wrong, but either the governor is pretty dumb or Vidac is the slickest thing in space!"

"Could be both," drawled Roger.

Tom looked at the pile of applications on his desk, and then at the door to Vidac's office.

"Whatever it is, we've got to tell Captain Strong!"

CHAPTER 5

"For the last time, Captain Strong has been sent on a special mission to Pluto!" said the supervisory officer at the Academy. "Now stop bothering me or I'll log all three of you with twenty galley demerits!"

"Very well, sir," said Tom. "But could you tell us if the mission had anything to do with the Roald project?"

"Cadet Corbett," replied the officer wearily, "even if I knew I couldn't tell you. It was a special order from Commander Walters' office. Captain Strong blasted off three days ago with a full crew of guardsmen in a rocket cruiser."

"And he didn't—" began Roger.

"And he didn't leave any message for you," concluded the officer.

"Thank you, sir," said Tom. "Come on, fellows, let's go. We've got to blast off for Mars in half an hour and we haven't got our gear packed."

The officer watched the three cadets leave and then called after them. "If Captain Strong returns before you get back from Mars, Corbett, I'll ask him to leave a message!"

"Thanks, sir," said Tom.

The three boys left the Tower building and hopped on a slidewalk for the spaceport. The Academy was buzzing with activity as Solar Guard officers, scientists, and enlisted men attended to the millions of details of the mass flight of the colonists into deep space.

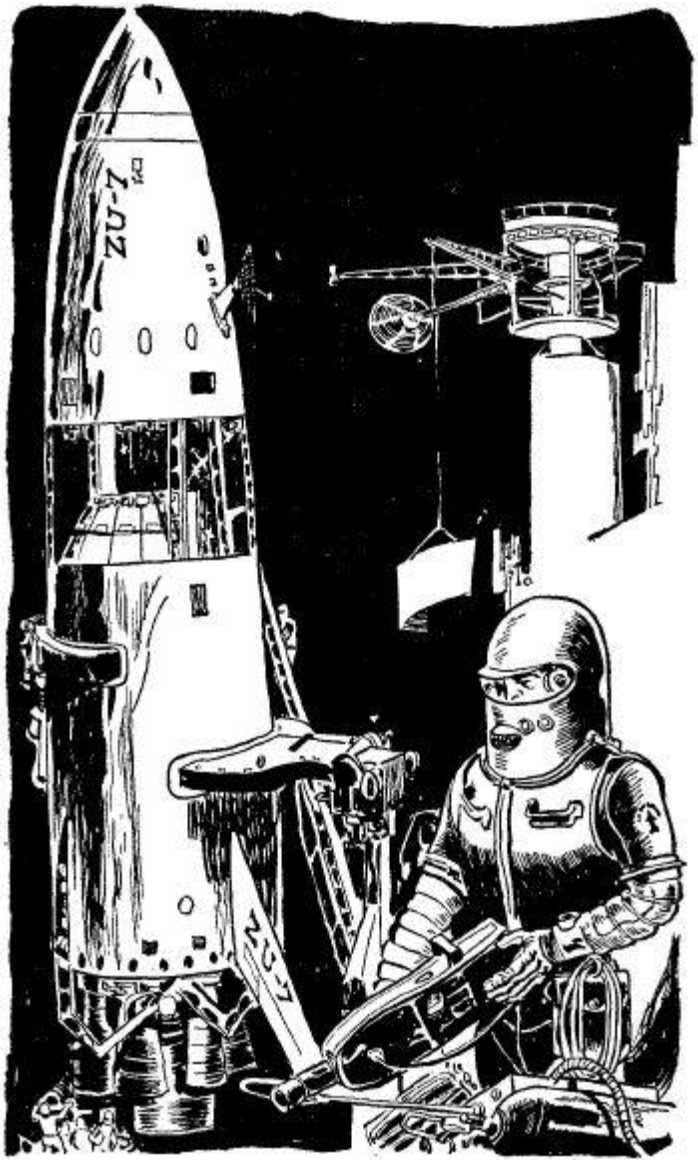
They met Mike McKenny, the stubby warrant officer, at the air lock of the Solar Guard rocket destroyer that would take them to Mars. After they had climbed into the ship, they waited for a full hour before they could get clearance to blast off. And, in flight, they were forced to maintain constant alert and careful position in the heavy flow of traffic to and from Earth.

"Never saw the Academy so busy in all my life," commented Mike. "Must be a thousand ships there and in the Atom City fitting docks."

"Yeah," agreed Roger. "This is going to be some push!"

From Mars, Titan, Ganymede, Luna City, Venus, the Asteroid Colonies, and as far away as the uranium mines of Pluto, the colonists arrived, to be quartered at Space Academy. Excited, and anxious to begin their new life, they assembled for their antibiotic shots and the last medical check by the Solar Guard doctors. There were crystal miners from Titan, farmers from Venus, Mars, and Earth, prospectors from the New Sahara desert of Mars, engineers from the atmosphere booster stations on Ganymede, and just plain citizens who wanted a new life on the distant satellite of Wolf 359. All had

gathered for the great mass flight into space.



The Solar Guard worked late into the night, examining every ship in the Alliance

At the same time the giant fleet of ships needed to carry the colonists to Roald was being assembled. Officers of the Solar Guard worked late into the night, examining the construction of every ship in the Alliance for use in the flight to Roald. If a jet liner or merchantman was found to be satisfactory, it was purchased at full price from the owners and flown to refitting docks at Space Academy and Atom City where work was begun converting it to a special use. Every ship was to be cannibalized on Roald, its hull taken apart to provide housing and its power decks converted into electropower plants. Now working with Mike McKenny, the three Space Cadets were part of a large group of transfer crews engaged in flying ships to Earth.

Returning from Mars, where they had picked up a giant jet liner, the three cadets landed on the crowded Academy spaceport and turned hopefully to Mike.

"You think we can get a twenty-four-hour pass, Mike?" asked Roger.

"Yeah," growled Astro. "Governor Hardy promised us a two-week leave, but I guess he got swamped under details!"

Mike scratched his head. "I don't know, boys," he said. "I can't give it to you, but I'll speak to Commander Walters for you. I know it's been a pretty rough grind for all of you."

"Thanks, Mike," said Tom. "We'd appreciate it."

Later, when the three boys had signed over the giant ship to the refitting crews, they headed for their dormitory for a refreshing shower.

As Astro began to strip off his jacket, he suddenly asked, "Do you think Captain Strong has returned from Pluto yet?"

"I doubt it," answered Roger. "I'm sure there would have been a message for us on the chatter wire if he had." Roger referred to a tape recorder that was standard equipment in each of the dormitory rooms, used expressly for messages.

"You know something," said Tom. "I think we ought to go directly to Commander Walters about Vidac."

"Commander Walters!" growled Astro. "Are you off your rocket?"

"Why shouldn't we?" agreed Roger.

"I'll tell you why!" said Astro. "Commander Walters probably is so busy you couldn't get near him with a six-inch atomic blaster. And what are we going to say after we get there? Just that Vidac has let some space crawlers into the expedition?"

"That's enough, isn't it?" asked Roger.

"We can't let this slide, Astro," said Tom determinedly. "Somebody's got to do something about Vidac, and if the governor won't, it should be brought to Commander Walters' attention."

"Come on. Let's do it right now," urged Roger. "We'll be sticking our necks out, but since when have we ever let that stop us?"

Astro shrugged his shoulders and quickly redressed. The three boys left the dormitory building and started hopping from one slidewalk to another, as they made their way to the Tower building. All around them the activity of the Academy seemed to have increased. Everyone seemed to be rushing somewhere. Even the green-clad Earthworm cadets had been pressed into service as messengers. And mixed in with the officials were the colonists wandering around sight-seeing.

"Say!" exclaimed Astro. "Isn't that Jane Logan?"

"Where?" asked Roger. Astro pointed to a parallel slidewalk where the girl colonist from Venus was being whisked along in the same direction. "Well, blast my jets!" cried Roger. "So it is!"

"Relax, Roger," said Astro with a wink at Tom. "Business before pleasure!"

"Yeah—yeah, but this is business too," said Roger, jumping lightly to the near-by slidewalk beside the pretty young colonist.

"Well," he exclaimed, "if it isn't the little space doll from Venus!"

Jane Logan turned around and smiled. "Well, Cadet Manning!" And seeing Astro and Tom come up, she smiled a greeting to them. "And Cadets Astro and Corbett!"

"Never mind them," said Roger. "I'm the only one that counts."

"Why, Cadet Manning," said the girl archly, "I had no idea you were so important."

"As a matter of fact, I'm going up to see Commander Walters right now on some important business."

"Commander Walters?" gasped Jane. "Ohhhh!"

Roger grinned. "Sure, and while I'm up there, I'll get a twenty-four-hour pass and we'll take in the sights at Atom City tonight. O.K.?"

"Well, I don't know what my father would say about that!"

"Ah, tell him you're going to go out with me," said Roger, "and there won't be any trouble."

"Psst! Roger!" Astro hissed suddenly, punching Roger in the ribs. Roger gave the big cadet a frowning look and turned back to Jane.

"We'll have dinner, and then see a stereo, and I know a nice quiet spot where we can talk—"

"Talk?" demanded a gruff voice behind Roger.

The cadet whirled to find himself staring into the grim face of Hyram Logan. "Just what would you talk about, Cadet Manning?" demanded Jane's father. Billy stood at his father's side, grinning broadly.

"Uh—er—ah—radar, sir, the—er—problems we find in radar."

Logan turned to Jane. "Are you interested in radar, Jane?"

"Not particularly, Father," said Jane, a twinkle in her eye. Tom and Astro were trying unsuccessfully to stifle their laughter.

His face suddenly flushing crimson, Roger looked around and stammered, "I—uh—I just remembered—got to see a feller about a hot rocket!" And Roger jumped off the slidewalk to disappear into the Tower building.

Laughing out loud now, Tom and Astro said good-by to Jane and her father and followed Roger.

Inside the gleaming Tower of Galileo, the two boys raced up the slidestairs and caught up with Roger.

"Well, Romeo," said Astro, slapping him on the back, "that was what I call a strategic retreat in the face of overwhelming odds."

"Ah, go blast your jets!" snarled Roger.

"Never mind, Roger," said Tom, "we probably won't get the pass, anyway."

Suppressing smiles, Astro and Tom followed Roger down the long corridor toward the office of Commander Walters. In the anteroom they waited while an aide announced them to the commander. Standing before the aide's desk, they could see the commander's face come into focus on the small teleceiver screen, and they were alarmed to see Governor Hardy seated beside him.

"What is it, Sergeant?" asked Commander Walters.

"Cadets Corbett, Manning, and Astro of the *Polaris* unit to see you, sir," said the enlisted guardsman.

"Send them right in," said Walters.

The aide flipped off the teleceiver and smiled up at the cadets. "Go ahead, fellows. He's in a good mood today, so you don't have to worry about demerits."

Tom thanked the guardsman and started for the door to the inner office, but Roger grabbed him by the arm and pulled him back.

"We can't go in there now, Tom," he whispered. "Not with Governor Hardy sitting there!"

"I know," replied Tom. "But we can't back out now. He's been told we're here. We'll just go in and ask him for the week-end pass."

"Good idea," agreed Astro.

"Say, are you guys going in or not?" called the sergeant.

The three cadets nodded quickly and stepped inside the room. Governor Hardy and the commander were studying a blueprint which was spread out on the desk. The three cadets came to attention in front of the desk as Walters looked up inquiringly.

"*Polaris* unit reporting on a special privilege request, sir," announced Tom.

Walters smiled. "Yes, I know why you're here, boys. Warrant Officer McKenny spoke to me a little while ago. Here's your pass. After the job you've done, you deserve it." He held out the slip of paper.

Governor Hardy stood up and snapped his fingers. "You know, Commander, I owe these boys an apology. When we left Luna City, I promised them that I would speak to you about giving them a two-weeks' leave, and it completely slipped my mind!"

"It's a good thing it did," said Walters. "I've had these boys doing some important work and I'll have even more need for them now. Come here, boys. I want you to look at something." He waved them around his desk and pointed to the blueprint on his desk. Tom, Roger, and Astro gasped. It was the plan for

a large city.

"That will be the first settlement on Roald," said Walters. "You boys will be remembered for a long time to come." He looked up at the governor and winked.

"How is that, sir?" asked Tom.

Walters placed his finger on the many intersecting lines in the blueprint that designated streets. "Each of these streets, avenues, roads, and expressways will be named after a member of the first colonial expedition to Roald. Your names will be among them."

"Ours!" exclaimed Tom. "Does that mean that—"

"I've been talking to Governor Hardy," Walters continued casually. "He tells me you've done a fine job. I think a tour of duty as cadet observers on Roald will just about round out your training."

The three boys looked at each other, eyes wide with surprise and pleasure.

"We'll actually go with the colonists?" asked Astro.

"That's right, Cadet Astro," said Walters. "And I'm sorry that I can't give you more than a twenty-four-hour pass. But time is very short."

"Twenty-four hours will be fine, sir," said Tom. "And we appreciate your giving us the opportunity to go to Roald."

"It won't be easy, Corbett," cautioned Walters. "You'll have to work harder than you've worked before. You'll have to maintain your studies and I'll expect you to send back a report every month." He turned to Governor Hardy. "Do you have anything to add, sir?"

"Not a thing, Commander," replied Hardy. "I've worked with these boys for weeks and I know what to expect of them. I know I can depend on them to take orders."

"All right," said Walters, turning to the cadets. "Go to Atom City and have yourself a good time. Report back to the Academy tomorrow at eighteen hundred hours. Unit dismissed!"

The three cadets saluted and left the room. In the corridor they slumped against the wall.

"That," announced Roger, "is as close as I ever want to come to getting a rocket shell in the side of the head."

"You can say that again, spaceboy," sighed Astro. "Just think what would have happened if we'd opened our mouths about Vidac!"

"Come on," said Tom. "We've got twenty-four hours to soak up as much of this Earth as we can. And I, for one, am going to have a good time!"

Without a word, the three cadets left the Tower building and made their way to the monorail station, where they would catch the streamlined express to Atom City. Each of the cadets was acutely aware of the trouble that lay ahead of them, and with Captain Strong at the outer edge of the solar system on a long haul to Pluto, not even a miracle could get him back to Space Academy in time to help them.

CHAPTER 6

A thousand spaceships, freighters, converted luxury liners, auxiliary supply vessels, rocket cruisers, destroyers and scouts, all led by the *Polaris*, blasted in even formation through the last charted regions of the solar system. Inside the gleaming ships the colonists had settled down for the long voyage to the new satellite of Roald. Their quarters were cramped and uncomfortable. There was very little to do and their only entertainment was the shipboard stereos. Many spent endless hours at the long-range telescanners watching the sun star Wolf 359, seeing it come closer and closer.

Aboard the *Polaris*, Tom, Roger, and Astro worked an endless tour of duty, maneuvering the great fleet of ships into ordered formation so that any vessel could be found without difficulty. Now that the fleet was in position, and the early confusion of forming up was over, they had hoped for a little rest, but were disappointed when Vidac suddenly ordered them to report to his quarters.

Standing at the hatch outside of Vidac's room, Tom and Roger waited for Astro as he climbed up the ladder to join them. The big cadet finally made the top and stood breathing heavily.

"By the rings of Saturn," he grumbled, "I'm so tired I could sleep right here. Right now!"

"Yeah," growled Roger. "You'd think Vidac would give us a break after what we've done."

"We'll have plenty of time to rest on this trip," said Tom. "This is just the beginning. I'll bet by the time we reach Roald we'll be wishing we had something to do to pass away the time."

He turned and pressed the annunciator button and the hatch slid open. The three cadets entered the room and snapped to attention.

"*Polaris* unit reporting as ordered, sir," said Tom.

Vidac swung around in his chair and stared up at the three cadets, a hint of a smile curling his lips.

"You've done a fine job, boys," he said. "The fleet is in good formation." He paused as he settled back in his chair. "But I'm not the one who believes in idle hands. I've assigned you to Professor Sykes. He needs help in charting the unexplored regions of space we're approaching. And you three need that kind of training. Report to him in one hour."

"One hour," gasped Roger. "But we're completely blasted out!"

"Yes, sir," agreed Astro. "Couldn't we log some sack time before we start

another assignment?"

Vidac stood up and faced them. "You might as well learn right now," he said sharply, "that when I give an order I expect it to be carried out without suggestions, complaints, or whining excuses!"

"But—!" stammered Roger.

Tom quickly stepped forward. His back ramrod straight, he saluted the lieutenant governor. "We understand, sir."

He executed a perfect about-face and, followed by Astro and Roger, he left the lieutenant governor's quarters.

Outside, the three cadets walked wearily toward the messroom just off the control deck. After preparing a hasty cup of tea, they sat about the table silently, each thinking about the long trip ahead of them and the difficulties they were sure to encounter with Vidac. They all three jumped when Jeff Marshall, Professor Sykes's aide, entered and boomed a cheerful greeting.

"Hi, fellas!"

"Hiya," muttered Tom. Astro and Roger merely nodded.

"Say!" cried Jeff, his usually cheerful face showing concern. "What's the matter with you three guys? You look as though someone told you there isn't any Moon!"

"Worse than that," said Roger. "Vidac just assigned us to work with Professor Sykes on charting the new space regions."

Jeff smiled. "Nothing wrong with that. The old professor isn't so bad. He sounds worse than he really is."

"Listen," growled Astro, "you don't have to tell me what Professor Sykes is like. I had a class with him at the Academy. That guy is so sour, vinegar is sweet by comparison."

Astro's outburst was said with such fierce conviction that Tom, Roger, and Jeff burst out laughing.

"It isn't that we mind working with Professor Sykes," said Tom. "He's a real brain and we could learn a lot from him, but—"

"But what?" asked Jeff.

"It's the way Vidac has suddenly—well, taken over around here. We're supposed to be under the direct orders of Governor Hardy."

"Well, Vidac is Hardy's executive officer," said Jeff.

"Yeah," muttered Roger. "We're finding that out, the hard way."

"I still can't understand why Governor Hardy would make him lieutenant governor, with his background," mused Tom.

Jeff grinned. "You three guys have been jockeying with so many space crawlers since you came to the Academy, you're suspicious of everyone you meet. I'm surprised you haven't decided that I'm an arch space criminal myself!"

The three cadets smiled. Jeff Marshall was so gentle and mild, his manner so quietly humorous, it was impossible to picture him as any kind of a criminal.

During the few minutes they had left, they casually discussed the chances of the senior space cadets against the enlisted guardsmen in a forthcoming mercuryball game, and then went up to the forward compartment of the *Polaris*, which served as a temporary observatory for Professor Sykes.

The Chief Astrophysicist of Space Academy, Professor Barnard Sykes, was a man of great talent and even greater temper. Referred to as Barney by the cadet corps, he was held in high regard and downright fear. There were few cadets who had escaped his scathing tongue when they had made a mistake and practically the entire student body had, at one time or another, singly and in unison, devoutly wished that a yawning hole would open up and swallow them when he began one of his infamous tirades. Even perfection in studies and execution by a cadet would receive a mere grunt from the cantankerous professor. Such temperament was permissible at the Academy by an instructor only because of his genius and for no other reason. And Professor Sykes fitted the bill. It was by sheer devotion to his work and single-mindedness of purpose that he was able to become a leading scientist in his field. Professor Sykes had been assigned, at his request, to the Roald expedition. As the leading scientist, it was his job to evaluate every new discovery made during the trip out to the distant satellite, and later make observations on the colony itself. Scientifically, and in a sense ultimately, the success or failure of the Roald expedition would rest on his round hunched shoulders.

When the three cadets and Jeff Marshall entered the observatory, they found Professor Sykes bending over a calculating machine checking some figures. Apparently finding a mistake, he muttered to himself angrily and started over again. Roger stepped forward.

"I can handle a calculator pretty well, sir," Roger said. "You want me to do it for you?"

Sykes whirled around and glared at the blond-haired cadet. "What's your name?" he snapped.

"Why—Cadet Manning, sir," replied Roger.

"Cadet Manning, do you see this calculator?" Sykes pointed to the delicate instrument that could add, subtract, divide, and multiply, in fractions and whole numbers, as well as measure the light years in sidereal time.

"Yes, sir," said Roger.

"Cadet Manning," continued Sykes, "I perfected that machine. Built the first one myself. Now offhand, wouldn't you say I would know how to operate it?"

"Yes, sir," stammered Roger. "But I just wanted to help, sir."

"When I need your help I'll ask for it!" snorted the little professor. He turned to Jeff. "What are they doing here? You know I don't like to be interrupted when I'm making observations!"

Jeff smiled slowly. "They've been assigned to work with you, sir. They're your new assistants."

"My assistants!" screamed Sykes. "What space-blasting idiot got the idea

that I needed any assistants?"

"The lieutenant governor, sir," said Jeff.

"Oh, he did, did he!" Sykes turned to the teleceiver, flipped it on, and waited impatiently for the machine to warm up.

In a moment Vidac's face came into view. Before the lieutenant governor could say a word, Sykes began to scream at him.

"What's the idea of sending these brainless Space Cadets to me! Assistants—bah! Can't you find something else for them to do?" bawled Sykes. "Is my work considered so unimportant that I should be impeded by these—these—" He sputtered and turned to wave at Tom, Roger, and Astro who still stood at rigid attention.

Sykes got no further. Vidac simply cut off his teleceiver and left the professor staring into a blank screen. His face became beet red, and he screamed at Jeff Marshall. "Get them out of here! Put them to work—scrubbing the decks, cleaning up the place, anything! But keep them out of my way!" Then wagging a finger in Roger's face, he screamed his last warning. "Don't ever speak to me again, unless I speak to you *first*!"

Smarting under the continuous blast of anger from the professor, Roger could no longer restrain himself. Slowly, with the calm deliberate manner and slow casual drawl that characterized him at his sarcastic best, the cadet stepped forward. He saluted, and with his face a bare six inches from Sykes, said evenly, "To speak to you, sir, under any conditions, sir, would be such a

stroke of bad luck, sir, that I wouldn't wish it on the last spaceman in the world, sir." With another curt salute he wheeled smartly and walked out of the room.

Flabbergasted, Professor Sykes could manage no more than a hoarse bubbling sound and he finally turned to Jeff Marshall, waving his arms violently. "Get them out of here—get them out of here. Get them out!"

The sergeant nodded quickly at Tom and Astro, who, repressing smiles, saluted and followed Roger out of the observatory.

Within the hour, Professor Sykes was still screaming loudly, this time to Governor Hardy himself. Standing before his desk the eccentric scientist babbled his complaint of Vidac's rebuff and Roger's outrageous insolence.

"I won't stand for it, Governor! My work is more important than having to wipe the noses of three loudmouthed sassy cadets! And as for that—that man Vidac, if he ever turns off the teleceiver again when I'm talking to him, I'll go to the Solar Council itself. I'm an officer of the Solar Guard and demand respect!"

His harangue concluded, Sykes turned and stalked toward the hatch.

"Just a moment," called Hardy, stepping around the desk to confront the little scientist. "All of us are assigned to important jobs," he said calmly. "Yours is scientific research; the cadets have a specific job of education; I am the co-ordinator of the whole project and Lieutenant Governor Vidac is my immediate executive officer. We all have to work together. Let's see if we can't do it a little more smoothly, eh?" Hardy smiled and turned back to his chair. "But one thing more, Sykes. If there are any more petty disagreements, please settle them with Vidac. Don't come up here again, unless I order you to!"

"*You* order *me*," gasped Sykes.

"That's all, Sykes!" said Hardy coldly, picking up some papers in an obvious gesture of dismissal. His fury redoubled, the professor backed out of the room and hurried below to Vidac's quarters. Expecting another cold interview, he was surprised when Vidac met him with a smile and asked him to enjoy a cup of coffee with him.

"No need for us to antagonize each other over the foolish mistakes and bunglings of the cadets, Professor," said Vidac evenly. "I apologize for cutting you off, but I make it a point never to talk to a man when he's angry. Come, sit down, and have a cup of coffee. I'm sure we can work out the answer." He paused and then added pointedly, "Without bothering Governor Hardy."

"Yes—yes—of course," said Sykes, accepting the proffered cup.

Within a half-hour, Vidac had Sykes laughing at his jokes and stories, and when they parted, the professor's temper had abated. When the scientist finally left, Vidac turned to the ship's intercom and paged the cadets. A few minutes later they entered his quarters for the second time that evening.

Vidac was ready and waiting when they entered the room and came to attention. He leaned back against his desk and looked at each cadet through

half-closed eyes. Finally, after a full minute of silence, he began to speak.

"I gave you specific instructions to report to Professor Sykes for work as his assistants," he said in a cold, hard voice. "I also told you I wanted my order carried out without complaints or whining excuses. You saw fit to start an argument as soon as you reported, thereby interrupting his work. The professor went to the governor and interrupted *his* work. The professor came to see me, interrupting *my* work. Three men had to stop their jobs because you didn't feel like carrying out orders."

"But, sir—" said Tom. "The professor—"

"Shut up, Corbett!" said Vidac coldly. "Don't ever interrupt me again while I'm talking!"

"Yes, sir!" said Tom through tight lips.

"You boys have been enjoying considerable latitude under Captain Strong. But I would like to remind you that Captain Strong isn't here. There's no one here but me. You will do as I say, when I say it, and as long as I say it. If you don't, I promise you, you will regret it."

"May I speak, sir?" asked Roger.

"No, Manning. I've heard about your tongue. I warn you, never use it on me, or—" He paused. "Just never use it, that's all."

He walked about the room, but kept his eyes on the cadets. "There's just one more thing I want you to understand, before you're dismissed. I know that all three of you refused my application as a colonist originally. I know what your feelings must be now that I am your superior. And because I know, I feel I should warn you not to try to express your feelings. You can't win. You can only lose. If I ever catch you going to Governor Hardy, by-passing my authority, I'll make your lives so miserable you'll wish you were dead. Now get out of here!"

As one man, the cadets of the *Polaris* unit saluted, turned a perfect about-face, and walked once again from the room. Outside in the passageway, they relaxed and headed for their quarters.

None of them could say a word, for the simple reason that each of them was so boiling mad he couldn't speak. Finally, after they had showered and were climbing into their bunks, Tom spoke for the first time since leaving Vidac.

"I have to write a report to Captain Strong," he said, when Roger started to turn out the light. "Better leave it on a while, Roger."

"O.K., Tom," said Roger. "Are you going to tell him what's going on here?"

"Yeah," growled Astro. "Give him the whole works. There's something wrong here somewhere. I can understand the professor blasting his jets. He does that all the time. But I can't understand Vidac acting the way he does."

"I feel the same way, Astro," said Tom, "but actually what are we going to say to Captain Strong? So far nothing concrete has happened." He shook his head. "I'm afraid if I put what happened down on an audioscriber that it'll look as though we've suddenly become cry-babies!"

"I'm ready to quit!" said Roger. "Grab a freighter and blast outta here. A

whole year with this guy! There's no telling what he's liable to do!"

Tom leaned over the table and stared at the bulkhead in front of him. He clenched his fists. Needless to say, he agreed with Roger, he had the same feelings. But he was powerless to do anything about it.

CHAPTER 7

"All set, Tom," called Roger, adjusting the valves that supplied a steady stream of oxygen into his space suit. Tom nodded and turned to Astro, seated behind them, his hand on the remote-control switch governing the huge air-lock portal on the jet-boat deck.

"Open her up, Astro," he ordered, his voice crackling through the spacephones inside his space helmet. Astro pressed the lever opening the sliding panel in the side of the hull of the *Polaris* and the cold blackness of outer space came into view.

Seated at the controls of the jet boat, Tom pressed down on the acceleration pedal, sending the tiny ship rocketing out of the *Polaris* like a projectile. As they circled their mother ship, Roger pointed out the vessel they were going to and Tom settled down to full throttle in the direction of Roald colony vessel Number Twelve. The huge converted luxury liner carrying many of the colonists was several lanes away in the sprawling formation of ships and it would take several minutes for them to traverse the four hundred miles to Number Twelve.

The three cadets were under orders to tour the fleet and observe conditions aboard the other ships. It was obviously a nuisance assignment since any extraordinary conditions could have been reported by teleceiver. But they were glad to get away from Vidac and Professor Sykes if only for a little while.

Holding the small vessel at full throttle, Tom settled back and pointed out several of the large star clusters in the clear airless void of space around them. Andromeda Galaxy whirled above them like a Fourth-of-July pin wheel. And the sun stars of Regulus, Sirius, and the Seven Sisters sparkled like diamonds on black velvet.

"Think we'll ever reach those babies?" mused Tom in a quiet voice.

"We're on the first step right now with this expedition," replied Astro.

"A short step," commented Roger. "To us Wolf 359 is a long way off, but when you stack it up against the distance to Regulus, for instance, it's just an inch."

"I'd sure like to go to Regulus," said Astro.

"So would I," snorted Roger. "But we'd probably wind up with a space crawler like Vidac for a skipper. That you can have!"

Nearing the first stop in their tour, Tom signaled ahead to Number Twelve to be taken aboard. He waited for the outer portal of the ship's air lock to be

opened and then sent his tiny spacecraft into a shallow dive, applying his braking jets expertly to bring it to a dead stop inside the jet-boat deck of the converted space liner. The outer portal slid closed and a moment later the air pressure on the deck had been built up enough for them to remove their space helmets.

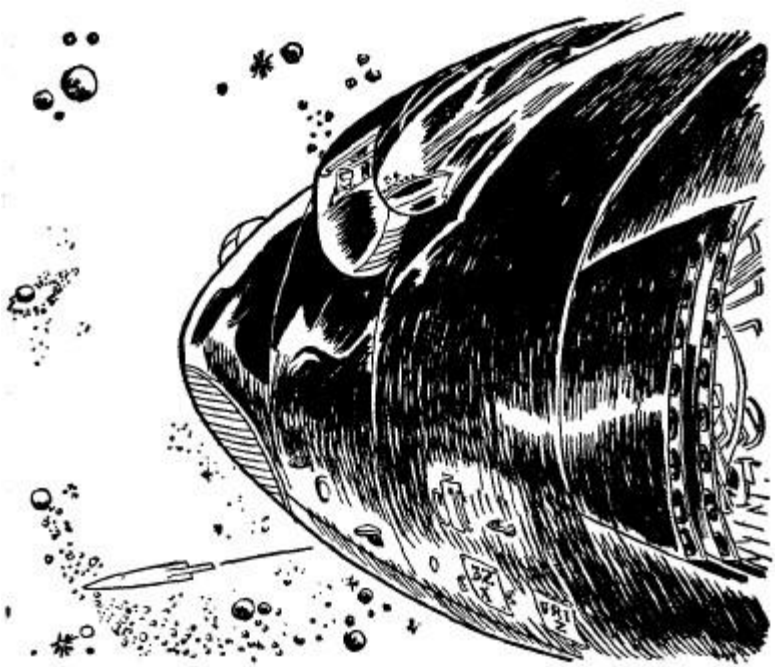
As they climbed out of the jet boat, the inner air-lock portal slid open and Tad Winters, the civilian captain of the liner, appeared. There was a scowl on his face and he made no attempt to hide his annoyance.

"Whose idea was this to come snooping around while we're in flight?" he snarled.

Astro bristled and stepped forward, towering over the smaller spaceman. "If we had anything to say about it, Mr. Winters, your company would be the last we'd want!"

Winters glanced at Tom and Roger who stood to one side silently, their faces grim.

Tom stepped forward. "Vidac sent us, Winters. We're here to check the departments and see that everything is in order."



"Vidac, eh?" sneered Winters. "What's the matter? Can't he do it himself, instead of sending a bunch of space squirts?"

"The lieutenant governor is busy," said Roger sarcastically. "Very busy, in

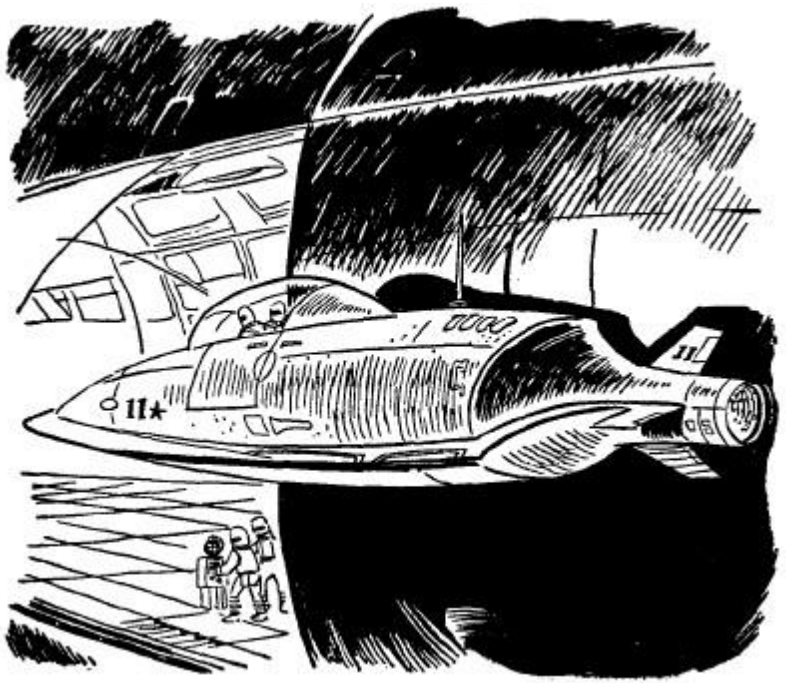
fact."

"Doing what?" asked Winters.

"Trying to keep the rest of his space rats in line!" snapped Roger.

"Listen, you!" growled Winters, taking a threatening step toward Roger. "I don't have to take that from you. One word outta me, and Vidac'll bury you in the brig."

Tom quickly stepped between Roger and the angry civilian spaceman to prevent the impending fight. He stared at Winters and smiled. "What's the matter, Winters? Need Vidac's help in everything you do?"



"Aw, go blast your jets, you space-brained jerks!" snorted Winters. He turned back toward the hatch, but there was noticeably less swagger to his walk.

The three cadets smiled at each other and followed him into the main body of the ship.

While the *Polaris* was the command ship of the fleet, the nerve center of the entire operation, it was still hardly more than a prison ship for the cadets. In direct contrast, the space liner was bright, gay, and full of life. Everything imaginable for the convenience of the colonists had been installed aboard the massive ship. As the three cadets walked through the ship on their way to the

control deck, they passed the auditorium where stereos were shown in the evenings and indoctrination lectures were given during the day. They passed a number of compartments that served as a school for the children of the colonists. There were workshops where the colonists could make objects for their future homes in their spare time. And in the heart of the ship was one of the most complete and extensive libraries in the Solar Alliance. Audioslides, soundscribers, story spools, question-and-answer tapes, everything designed to answer just about any question the human mind could ask.

The main living quarters of the ship were arranged so that each family had a small apartment, complete in every detail, to preserve as much of the family life as possible. There were no governors or supervisors to control the colonists. It had been decided to allow the colonists to choose their own leaders aboard the ships. But they were living together so peacefully, they hadn't found it necessary to select any one individual to be a leader. The ship was a miniature city.

As the Space Cadets made their rounds of the power deck, control deck, and radar deck, they were amazed by the excellence of the equipment and the care given it. And because they saw nothing to substantiate their suspicions of Vidac, and his hand-picked crew, on Number Twelve, they found themselves confused about their feelings toward him.

On the power deck, Astro had questioned a rocketman closely about the arrangement of the baffling around one of the firing chambers. The power-deck officer, Shilo Speed, heard Astro's questions, agreed with the cadet, and made the rocketman rearrange the baffling. Then, on the control deck, the pilot had been careless in maintaining his position with the other ships in the fleet. Tom mentioned it to Winters, and Winters immediately ordered the man off the bridge, and replaced him. Such action for the safety of the colonists had made the cadets wonder about Vidac's ability.

After inspecting the ship from radar mast to jet exhausts, the three cadets started back for the jet-boat deck. As they retraced their steps, they passed through the library and encountered Hyram Logan and his son Billy.

"Hello, Mr. Logan," greeted Tom with a big smile.

"Well, hello, Corbett," Logan replied. "Didn't know you were aboard Number Twelve."

"We're not assigned to her, sir," replied Tom. "We're just making an inspection for the lieutenant governor. How do you like the way she's being run?"

Logan's endorsement was immediate. "Just fine, Corbett. This ship is almost a colony in itself."

"Yeah, including school," chimed in Billy sourly. The three cadets laughed. Then the boy grinned and stuck a finger gently into Roger's stomach. "She ain't here, Cadet Manning. My sister is teaching kindergarten right now."

"Be quiet, Billy!" barked his father.

Roger's face turned a slow red while Tom and Astro grinned. After a few

more words, the three cadets again headed for the jet-boat deck.

"That Billy will make a fine radarman someday," drawled Astro.

"How do you figure that, Astro?" asked Tom.

"Did you see the way he spotted Roger's roving eye looking for his pretty sister? Why, in ten years, he'll be picking up asteroids the same way."

Back in their jet boat a few minutes later, blasting through space on the rest of their tour, Tom turned to his unit mates, a troubled look on his face.

"Did you notice anything aboard Number Twelve that looked—well, suspicious?" he asked.

Astro and Roger shook their heads.

"Me neither," said Tom. "Maybe we've got Vidac pegged wrong. Maybe—"

"I thought of that, Tom," interrupted Roger. "But there's one thing that doesn't seem right."

"What's that?" asked Tom.

"Your report to Captain Strong," Roger replied. "You sent it to him ten days ago. You should have had an answer by now."

"He's out on Pluto," said Astro. "Space Academy might not have forwarded it to him."

"You know the rules," said Roger. "Any official communication to a Solar Guard officer is sent through regardless of where he is in the universe, if communications are at all possible."

"You're right, Roger," said Tom finally. "I should have had some sort of answer by now."

"You think," mused Astro slowly, "maybe Vidac didn't send the report?"

Roger hesitated and then replied, "There's one way to find out."

"How?" asked Tom.

"Take a look in the communications logbook on the control deck."

"We can't, Roger." Tom shook his head. "Vidac's got his own men planted in every one of our departments."

"Yeah," growled Astro. "I been watching the way that guy Smith takes care of the power deck and, believe me, it makes me burn. Why, he hasn't washed down the atomic motor casing once since we blasted off!"

"Wait a minute!" cried Roger suddenly. "Jeff Marshall!"

"Jeff?" asked Tom. "What about him?"

"He can get to the control deck and take a look at the logbook," answered Roger.

"Say, that's right," said Tom.

"Come on," said Roger. "Let's finish off this tour and get back to the *Polaris*. If Vidac's on the level, he'll have sent your report to Captain Strong. If not, we know where we stand."

Astro shook his head slowly. "Honestly, fellas, I don't know whether to hope he did or didn't."

* * * * *

Their tour completed, the three cadets returned to the *Polaris*. They quickly audioscribed their report to Vidac and then hurried to the observatory to find Jeff Marshall. Luckily the sergeant was alone and they were able to give him all the reasons for their suspicions of Vidac and tell him what they wanted him to do.

"But what can I say I'm looking for in the logbook?" Jeff Marshall protested.

"We passed through a cloud of meteor dust the other day, didn't we?" asked Tom.

"Yeah," replied Jeff, "but what's that got to do—"

"You had to report it to central weather control," said Tom. "Tell the pilot you lost your own copy of the report and want to get the official path out of the log. Tell him the professor wants it."

Jeff thought a moment, then nodded his head. "O.K. I'll see you later."

The three cadets returned to their quarters to wait while Jeff went up to the control deck. He walked in with a smile, chatted with the pilot a few moments, and then made his request.

"I want to take a look at the log a minute, Johnny," he said casually. "The professor lost his notes on the meteor dust we passed through the other day."

"Sure," said the pilot. He tossed the dog-eared book to the sergeant. Jeff flipped through the pages and found the day Tom's report was to have been sent. He checked carefully, continuing through the entries for the succeeding days, ending with the last entry made just an hour before. There was no mention of Tom's report. Jeff turned to give the logbook to the pilot when Vidac and Professor Sykes stepped through the hatch. Seeing Jeff with the log in his hands, Vidac frowned.

"What are you doing here, Marshall?" he snapped.

Jeff was trapped. He came to attention and remained silent. Vidac walked across the control deck and stood in front of him.

"Well, Marshall?" he barked. "Answer me!"

"I needed some information about the meteor dust we passed through recently, sir," said Jeff.

Vidac turned to the professor. "Did you send him up here?"

Sykes merely shook his head.

"I lost the professor's notes and needed the information in the logbook, sir," said Jeff.

"What are you talking about?" growled Sykes. "The notes are still in my work journal. You put them there yourself!"

"What have you got to say to that?" demanded Vidac.

"I repeat, sir," said Jeff, "that was my reason for looking in the log."

Vidac paused, and when he spoke, his voice was cold. "The control-deck

logbook contains classified information, Marshall. You know that. I won't say you're lying about reasons for looking at it, but that does not excuse the fact that you *did* look at it without my permission. I'm confining you to the brig for ten days."

Jeff didn't bat an eyelash. The fact that he had found no entry of Tom's report to Captain Strong in the log, and the unreasonable annoyance Vidac expressed over his having looked into the logbook, convinced him that the cadets were not wrong in their suspicions concerning the lieutenant governor.

Vidac dismissed him and the enlisted sergeant was escorted to the *Polaris*' brig by two hastily summoned crewmen.

When the cadets learned of Jeff's punishment they immediately went to Vidac's quarters and requested permission to speak with him. After making them wait for nearly three hours, Vidac finally received them.

"Well, what now?" demanded Vidac.

"We would like to ask a question, sir," said Tom.

"Speak up!" snorted Vidac impatiently.

"It's about Sergeant Marshall, sir," said Tom.

"What about him?"

"We would like to know, sir, under what article of the space code was Sergeant Marshall sentenced to the brig?"

Vidac's eyes sharpened. He spoke quickly and crisply. "I suspected that there was some connection between Marshall looking in the log and your coming here to see me. I don't know what you have in mind, Corbett, but I'm going to lay it on the line. This is the last time you will question my authority. From this moment on, and until you are released from my jurisdiction, *I* am the space code. Do I make myself clear?"

"Very clear, sir," said Tom tightly. "Then will the lieutenant governor please put in writing any further orders he might have for us?"

"I will not!" snarled Vidac. "But I tell you what I will do. I'll confine you to your quarters for ten days for that impertinent request! And if I so much as see your noses outside your quarters, I'll really get tough! Dismissed!"

CHAPTER 8

"This is highly irregular, Logan," said Vidac to the Venusian farmer, "but I guess you can see the cadets. Perhaps a little advice from you will help them mend their ways."

Logan nodded. "I have a boy of my own, Governor," he said, "and I know how rambunctious they can get."

Vidac smiled thinly. "You'll find them in their quarters. The first ladder to your right and down two decks."

"Thank you, sir," replied Logan. He left Vidac's quarters and two minutes later stepped through the hatch leading into the cadet's room. After seven days of confinement, the three boys greeted Logan with a yell of pure joy.

"We have guests!" bellowed Astro, grabbing Roger who was asleep in his bunk and then banging on the shower door where Tom was taking a shower.

Roger tumbled out of the bunk and Tom came rushing out of the shower wrapped in a towel. They all began talking at once.

"How'd you know we were confined to quarters, sir?" asked Tom.

"It's a wonder Vidac allowed you to come see us!" yelled Roger.

"Never mind the questions, sir," said Astro. "It's just plain good to see a different face besides these two space jokers. One more game of space chess with Manning and I think I'd—"

Logan laughed at the cadets' enthusiasm, holding up both hands to stem their eager babbling questions. After Tom had dressed hastily and Roger had cleared off a bunk, they began to talk calmly.

"I didn't know you boys were in trouble," said Logan, "until I came over to the *Polaris* to see you. Then Vidac told me all about it."

"Was there any special reason why you wanted to see us, sir?" asked Tom.

"Well, as a matter of fact, there was a little reason. Billy, my son, has been pestering me to get some of your Academy books and audioscripts so he can study to become a Space Cadet when he gets old enough."

The three cadets grinned at each other and soon the Venusian farmer was piled high with manuals, audioscripts, tapes, and general information about the Academy.

"Thank you, boys," said Logan. "That's real nice of you, but—"

"But what, sir?" asked Tom.

"That was the little reason for coming to see you. I have a big reason too."

"What's that, sir?" asked Roger.

"I don't know how to say it exactly," began Logan, his voice low and hesitant, "but do you remember when you three came over to inspect Number Twelve?"

The boys all nodded and Logan continued in a hushed voice.

"Well, I told you then that everything was as nice as it could be. At that time it was. But now—"

"What's happened, sir?" asked Tom.

"What hasn't happened you mean!" snorted Logan. "The very next day we had a visit from Vidac himself. He made a routine check of all the departments, stopped and talked to some of the colonists, and he seemed, in general, like a nice fellow. Then all of a sudden it started."

"What?" asked Astro.

"Our skipper Winters and another fellow, Ed Bush, began treating us like—well, like prisoners!"

"Prisoners!" cried Tom.

"Yes!" said Logan. "They began to tell us when we couldn't go to the workshop and to the stereos, and made us eat our meals together in the main assembly room, with the wives taking turns doing all the cooking. And the schooling has been cut altogether."

"Why, why—" Tom was floored by the information. "But how can that be?"

"I don't know," said Logan, "but that's the way it is. I came over to tell you boys about it, since you were the only ones I knew. You struck me as being honest and I felt I could trust you."

"What else have Winters and Bush done?" asked Astro tensely.

"I guess the worst of all is the fact that we're having to pay for everything we eat," said Logan.

"Pay!" exclaimed Roger. "But, but—how can you? You don't have any credits. The Solar Council decided to let the colony work on a barter basis—share and share alike—until it could take its place in the over-all economy of the Solar Alliance."

"I know, I know," said Logan resignedly. "We're having to pay for the things we get by signing over a percentage of our future profit over the next seven years."

The three cadets looked at each other in disbelief. The idea of two men openly violating the laws of the expedition, treating the Solar Alliance citizens as if they were prisoners, was overwhelming.

Tom got up and began to pace the deck. Finally he turned and faced Logan. "Have you said anything to Vidac about this?" he asked.

"Ummmpf!" snorted Logan. "Every one of us signed a petition and had it sent to the governor himself. We didn't even get a reply. Vidac must have heard about it and told Winters and Bush to take it easy, because the next day we were allowed to eat again without having to sign over part of our profit to them. But everything else is the same."

"But how could they force you to pay?" asked Roger. "Couldn't you refuse?"

"Sonny," declared Logan emphatically, "I'm brave as the next man. But you

don't argue against a paralo-ray gun, especially when there are women and children to worry about."

Tom whirled around and faced Roger and Astro. "I guess we don't need any more proof now," he said coldly. "Jeff Marshall is thrown into the brig for looking into a logbook; we're relieved of our jobs here on the *Polaris*; my monthly report to Captain Strong isn't sent to Space Academy, and now this. One of two things is happening. Either Governor Hardy is in on this with Vidac, or Vidac is taking over without Hardy knowing anything about it."

"All right—all right," growled Astro, "but what are we going to do about it?"

"We've got to get word to Space Academy or Captain Strong someway, somehow. We've got to let them know what's going on."

"There's only one way to do that," said Roger. "But with the communications controlled by Vidac's men, we don't have the chance of a snowball on the sunny side of Mercury!"

"Then," announced Tom firmly, "we'll have to build our own communications unit."

"But how?" asked Logan.

"Roger here can make a communicator out of spit and bailing wire," said Astro. "All he needs is the essential parts."

"Look," said Tom tensely, "Jeff Marshall will be getting out of the brig when we do. He'll be working with Professor Sykes, along with us. Why can't we build one on the sly in the observatory?"

Roger thought a moment. "It's the only thing we can do. I just hope that Mr. Logan's coming here hasn't aroused suspicion."

"Don't worry about that," said Logan. "I told Vidac I wanted this information about Space Academy for Billy. That seemed to satisfy him."

"I don't know," mused Tom. "He's pretty smart."

"What else can we do?" asked Astro.

"Nothing," said Tom bitterly. "Not a space-blasting thing until we get out of here!"

* * * * *

"We've *got* to have that triple vacuum tube," declared Roger. "That's the only thing that will transmit a voice quickly back to Earth from this fix out in space."

The three boys and Jeff Marshall were back in their quarters after their first week of active duty again. They had surreptitiously begun collecting parts for the communicator and were sorting them out on one of the bunks when Roger mentioned the necessity for the special vacuum tube.

"How quickly?" asked Astro.

Tom explained. "The equipment we have now is strong enough to talk to the Academy, but it'll take about six hours for my voice to reach it. And then another six hours for the Academy's answer to get back to us. At the end of twelve hours we might not be ready to receive and the communications officer might pick up their answer. Then we'd be in the middle of a space hurricane!"

"I see," said Astro. "You've got to be able to talk directly to the Academy, so that when they answer, you'll be ready!"

"Right," said Tom. "We might only get ten or fifteen minutes of free time, when the professor would be away from the observatory."

"Where do you think I could get one of those tubes, besides on the radar bridge, Roger?" asked Jeff. He had been the main source of supply for the equipment used in the communicator. Since getting out of the brig, his movements had not been as restricted as the cadets'.

"That's just it," said Roger. "I remember distinctly loading all of them in the locker near the main scanner on the radar deck."

"Then we have to get it from another ship," said Tom. "The chances of getting one here, aboard the *Polaris*, are zero."

"Say, Roger," suddenly asked Astro, "do you think you remember enough about that triple vacuum tube to draw me a blueprint?"

"Sure," said Roger. "And you could probably build it too. But how are you going to get the inside tube vacuumized, then the second one, and finally the third. They have to be absolutely clean!"

"How about outside in space?" Astro suggested. "We could take the parts of the tube with us and assemble it out there. You can't ask for a better vacuum than outer space."

Tom grinned and slapped the big Venusian on the back. "Astro, you're the hero of the day. Come on, Roger, start drawing that tube! Astro can make it on the power deck as if he were repairing something. Make it as simple as possible."

"Right," said Roger, "all I need is the vacuum and of course the copper filament inside the inner third tube for sending and receiving. We can make it so the tubes screw together inside of each other and then seal them."

"Right," said Astro.

"Meantime," said Tom, "Jeff and I will get you a set of earphones, if we have to tear them off the head of the radarman!"

Meanwhile, in Vidac's quarters, the second-in-command was facing the irascible Professor Sykes.

"Say that again, Professor," said Vidac. Sykes was standing before him holding a slip of paper in his hand.

"I said," the professor snorted, "that in forty-eight hours and some odd minutes we will be passing through a very thick cluster of asteroids, about ten thousand miles in depth."

"Is it on our present course?" asked Vidac.

"Yes," replied Sykes. "We'll have to go around it. I wouldn't give you a plugged credit for our chances of getting through it."

"I didn't ask you for your opinion!" snapped Vidac. "All right, you've given me your information. Now get out!"

Sykes abruptly turned and left the lieutenant governor's compartment. Alone, Vidac paced the floor. After a moment of deep thought he snapped his fingers in decision and turned on the ship's intercom.

"Corbett! Manning! Astro!" he bellowed. "Report to the control deck on the double."

A few moments later the three cadets stood before Vidac at rigid, stone-faced attention. Vidac turned on the chart projection screen and pointed to their position in space.

"Professor Sykes has just warned me that the fleet is approaching a freakish asteroid cluster," he announced. "He estimates it to be of this size." Vidac swept his arm over the chart, taking in most of the space directly in front of their path. "To go around it, over it, or under it would mean altering the course of the whole fleet and losing about six days' transit time." He turned back to the cadets who had been watching closely. "I want you three to see if you can find a route through the belt and save us the detour time." He glanced at his wrist chronograph. "The belt is about forty-one hours ahead of us now. Take a rocket scout, look it over, and report back to me."

"Yes, sir," said Tom. "Anything else, sir?"

"Yes," said Vidac. He stepped closer to the three boys. "This is not a joy ride. I expect you to find a way through that cluster. You have enough time to explore the greater part of it."

"But you said forty-one hours, sir," retorted Tom.

"That's plenty of time if you travel at full space speed."

"Full thrust!" exploded Roger. "In an unknown asteroid cluster? Why, the odds are better than a thousand to one that we'll be ripped open by a space rock. The best we can do is one-quarter space speed."

"You'll open those jets wide or you'll spend the rest of the trip to Roald in the brig and I'll send a report back to the Academy on your cowardice!" Vidac paused, then added quietly, "Do I make myself clear?"

"Yes, sir," said Tom, tight-lipped. "You make yourself perfectly clear!"

CHAPTER 9

"Do you think it will be safe there?" asked Roger, as he watched Tom and Astro push the half-completed communications set under a workbench behind several large cartons.

"As safe as any place," replied Tom. "If Vidac has any idea we're building it, we could hide it any place and he'd find it. So, as the saying goes, the least hidden is the best hidden. We'll have to take a chance."

"Besides," chimed in Astro, "here in the storeroom, Jeff will have his eye on it all the time. If Vidac starts getting nosy, Jeff will be able to shift it to another hiding place without too much trouble."

"Well, that's all we can do now," said Tom, straightening up. "Come on. Let's get to the scout ship and blast off before Vidac wants to know what we're doing."

Checking the hiding place one last time, the three cadets left the storeroom and headed for the jet-boat deck. In a few moments they were blasting through space toward the rear of the fleet where a rocket scout was waiting for them. The scouts were being carried by the larger space freighters to save fuel. Now one had been fueled and was blasting alongside its carrier ship with a skeleton crew. When the cadets' jet boat came alongside, the crew of the scout transferred into the jet boat and the three cadets took over the scout.

On the control deck, Tom checked his instruments and made preliminary tests on the circuits. Suddenly Roger's voice crackled over the ship's intercom. "Blast that guy Vidac!" he yelled. "He's one jump ahead of us again!"

Startled, Tom called into the intercom. "What do you mean, Roger?"

"The ship's communicator," snorted Roger. "I figured once we got aboard the scout we'd be able to use this set to contact the Academy instead of having to monkey around with the homemade job back on the *Polaris*. But it's no soap."

"Why not?" boomed Astro over the intercom.

"The only open circuit here is beamed to the *Polaris*. And the radar is too complicated to change over to audio communications. We haven't got enough time."

Tom clenched his teeth. He had had the same idea about using the communications set on the scout to contact the Academy. Now there was nothing to do but hope Vidac wouldn't find the one they were building. He called into the intercom again. "Is the radar working well enough for us to search the asteroid cluster without plowing into any space junk?"

"Yeah," growled Roger. "He left it in working condition all right, but if we burn out a tube, we're blacked out until we get back. There isn't a spare nut or bolt in the locker for repairs."

"But what happens if something happens to the radar when we're in the cluster," called Astro. "We'll be sitting ducks for every asteroid!"

"That's the chance we have to take, Astro," said Tom. "If we complained, you know what he'd do."

"I sure do," growled Astro. "He'd call us yellow again, because we'd refused to make the trip!"

"That's the way it adds up," said Tom. "So I guess we'd better get started. Stand by to blast!"

"All clear fore and aft," reported Roger.

"Full thrust, Astro," ordered Tom, "but stand by for emergency maneuvers. This is going to be a tough trip, fellows. Perhaps the toughest trip we've ever made. So keep your eyes and ears open and spaceman's luck!"

"Spaceman's luck!" echoed his unit mates.

Under full thrust the speedy little ship shot ahead of the fleet toward the gigantic mass of asteroids, planetoids, and millions of lesser space bodies, whirling and churning among themselves at an incredible rate of speed. Hardly had they left the fleet when Roger's voice crackled over the intercom again.

"Say, you space monkeys!" he yelled. "I got an idea! How about taking this wagon and heading back for the Academy?"

"Can't," replied Astro, "we've only got forty-eight hours of fuel, water, and oxygen—and no reserves. We couldn't get one-tenth of the way back before we ran out of everything, even if we wanted to go back."

"What do you mean—*if*?" snapped Roger. "Wouldn't you go back? How about you, Tom?"

"I'd think a long time before I would," said Tom. "Remember, Vidac hasn't done anything we can actually pin on him."

"What about making the colonists pay for their food," sneered Roger.

"Vidac could say it was a precautionary measure," said Tom.

"What kind of precaution?" asked Astro.

The speedy little ship shot ahead of the fleet toward the gigantic mass of asteroids

"Well, Vidac could say that the colonists were using too much of the supplies simply because it was free. And instead of imposing rationing, he's making them pay, but that he wouldn't actually take their profit."

"Yeah," growled Astro. "And there's just enough hokum in that to make everyone back at the Academy happy."

"I'm afraid we'll have to go on with it," said Tom. "Not only this exploration of the asteroid belt, but we'll have to wait for Vidac to really tip his hand."

"From the way he operates," said Roger disgustedly, "that might be never."

Blasting farther ahead through the unexplored region of outer space, the cadets, who had seen a great many space phenomena, were awed by the thickening groups of stars around them. It was Tom who finally realized that they were getting closer to the inner ring of their galaxy and that the stars and suns they were unable to see from Earth, or other Solar Alliance planets, were some fifty to sixty billion miles closer.

Gulping a cup of tea and a few sandwiches, the three cadets continued their advance toward the uncharted, unknown dangers of the asteroid belt that lay ahead of them.

Meanwhile, back on the *Polaris*, Jeff Marshall walked into the observatory quietly. He stood and watched Professor Sykes adjust the prisms of his telescopes, then settle himself to an hour of observation. Jeff knew that the professor would remain there for the next two hours. He felt safe in going to the storeroom and taking out the communications unit to work on it. But just to make sure, he called out, "Will you be needing anything, sir?"

"No, I won't!" barked Sykes. "If I did, I'd ask for it!"

"Yes, sir!" said Jeff. He turned away with a slight smile on his face and left the observatory. He walked quickly through the passageways of the ship until he came to the storeroom hatch. He glanced around quickly and then stepped into the quiet chamber. Pulling the cartons away from the bench, he took out the half-completed tangle of wires, and by the light of a small flashlight, he peered into the maze, trying to figure out where Roger had left off. He had traced the connections and was about to go to work when suddenly the overhead light was switched on, bathing the storeroom in light. Jeff whirled around to see Vidac, standing in the open hatch, staring at him.

"Well, Sergeant Marshall," he said, advancing toward the enlisted spaceman, "some secret experiment, no doubt!"

"Yes, sir," replied Jeff. "I've—I've been working on a new type of communications set."

Vidac stepped closer to the set and gave it a quick look. Suddenly, without warning, he picked up the delicate instrument, smashed it to the floor, and then trampled on it. He whirled around and faced Marshall.

"What's the meaning of this, Marshall?" he demanded.

Jeff was stunned by Vidac's violent action and could only stammer, "I have nothing to say, sir."

"Is Corbett or Manning or Astro in on this?" asked Vidac.

"No, sir," Marshall said quickly.

"I warn you, it won't go easy with you if I catch you shielding those

cadets," snapped Vidac.

"No, sir," said Marshall, swallowing hard several times, "I am not shielding them."

"Very well, then. Tell me, what was the purpose of this 'experimental' communications set?"

"To make contact with amateur communicators back in our solar system, sir."

"I'll bet!" said Vidac coldly. "All right, pick up this piece of junk and get out of here. Any more experiments will take place in the observatory, and not unless I give my permission, is that clear?"

"Yes, sir," said Jeff. "I understand, sir."

Vidac turned and walked away without returning Jeff's salute. The enlisted spaceman looked down at the twisted mass of wire and metal and muttered a low oath. Then, picking up the pieces, he turned and walked wearily back to the observatory. All of Roger's effort was destroyed. But worse than that, now Vidac knew about the attempt to build the set.

* * * * *

"Watch out, Tom."

Roger's voice blasted through the intercom from the radar deck. "There's the biggest hunk of space junk I've ever seen bearing down on us!"

Tom flipped on the control-deck scanner of the rocket scout quickly, estimated range, angle, and approach of the onrushing asteroid, and called to Astro on the power deck.

"Emergency course change!" he bellowed. "One-quarter blast on the starboard jets, ten degrees down on the exhaust steering vanes! Execute!"

In the cramped space of the power deck, the giant Venusian quickly responded to his unit-mate's orders. Opening the induction valves leading to the reactors, the cadet shot full power into the radiation chambers, sending the little space scout into a long downward curve, safely out of the path of the dangerous asteroid.

"Whew!" breathed Roger over the intercom. "That was fast thinking, Tom. I wouldn't have had time to plot a course change. And with all that other stuff around here, we might have missed this one and hit two others!"

"Yeah," agreed Astro. "It must have been good, because I'm still here!"

"Got your radar sweeping ahead, Roger?" asked Tom. "Any sign of an opening in this stuff?"

"Radar's going all the time, Tom," replied Roger. "But I don't think we're going to find a passage large enough to take the whole fleet through."

"I'm afraid you're right," said Tom. "I guess we'd better get out of here.

How much fuel do we have left, Astro?"

"Enough to hang around here for another fifteen minutes. But let's not cut it too fine. We might have to spend a little time looking for the fleet."

"I don't imagine Vidac would lose any sleep," sneered Roger, "if we got lost!"

"Well, fifteen minutes is fifteen minutes," said Tom, "so we might as well take a look."

Roger gave the course change to Tom and the small ship shot to another section of the asteroid cluster while the electronic finger of the radar probed ahead, searching for an opening through the mass of hurtling rock. Time and again in the past fifteen hours, the cadets had discovered what they thought to be a way through, only to find it too small for the massed flight of spaceships to maneuver safely. Now after the many hours of concentration the boys were tired and more than willing to return to the fleet.

"Time's up," Tom finally announced. "Plot a course back to the *Polaris*, Roger. Stand by for a course change, Astro. We're heading home!"

Tom's remark about heading "home" went unnoticed, since the three cadets had long since thought of the giant rocket cruiser as being their home, more than Space Academy or their real homes with their families.

After making contact with the *Polaris*, Roger quickly plotted an intersecting course that would put them alongside the command ship of the fleet in a few hours. Then, safely out of the dangerous cluster of flying meteors and asteroids, the three cadets gathered on the control deck and relaxed for the first time since the beginning of their scouting trip. They discussed their chances of contacting Space Academy with the communications set they had left hidden in the storeroom.

"How far did you get with the tube, Astro?" asked Roger.

"You'll be able to send out a message four hours after we get back," replied Astro between bites of sandwich.

"Too bad we don't have the tube with us," said Tom. "Now that we're alone we could vacuumize it without worrying about Vidac."

"I've already tried to make another one here," said Astro. "But these scouts don't have any kind of tools or equipment. We'll have to wait till we get back."

In a few hours Roger picked up the welcome outline of the *Polaris* on his scanner and, shortly after, the rest of the fleet. After receiving instructions from Vidac to return the scout to the freighter and come aboard, the three cadets made quick work of transferring to the jet boat and a short while later were waiting impatiently for the hiss of oxygen to fill the air lock of the *Polaris*. No sooner had the dial indicated the equal pressure with the rest of the ship than the inner portal opened to reveal Vidac waiting for them.

"Well?" he demanded at once. "Is there a way through the asteroid cluster?"

"No, sir," said Tom. "We searched practically the whole thing. There are a few openings, but none large enough to let the whole fleet through."

"I thought so," sneered Vidac. "You just blasted to the edge of the cluster and waited for enough time to pass and then came running back here!"

"Why, you—" growled Astro. He took a menacing step toward Vidac. The older spaceman didn't move.

"Yes, Cadet Astro?" said Vidac coldly. "Did you want to say something?"

Before Astro could speak, Tom stepped forward. "Regardless of what you may think, sir," he said, "we did search the belt and there wasn't any way through it."

"I have to accept your word, Corbett," said Vidac. He turned and started back down the companionway, then stopped and whirled around to face them again. "Incidentally, something happened while you were away. Jeff Marshall was found experimenting with a homemade communicator. Do you know anything about it?"

The three cadets were dumbfounded. Finally Roger shook his head. "No—no, sir," he muttered. "We don't know anything about it."

Vidac smiled. "All right. That's all. Make out a full report on the scouting mission and send it to me immediately."

When the lieutenant governor had disappeared, Roger turned to face Tom and Astro. "Well, what do we do now?"

Tom answered between clenched teeth. "We're going to see Governor Hardy!"

CHAPTER 10

"Now, now, boys," purred Governor Hardy, "I think you're jumping to conclusions. Personally I'm very much pleased with the way Lieutenant Governor Vidac is handling details. And as far as the asteroid cluster is concerned, we'll go under it, or over it, or whatever is the shortest route."

"Yes, sir," said Tom, "but—"

"No *buts*, Corbett," said Hardy, still smiling. "This is a great undertaking and we need the co-operation of every member of the expedition. In a few days we'll be arriving at Roald and the strain of this long trip will be over. Mr. Vidac is a capable man and I trust him implicitly, no matter how strange his methods may appear. I urge you to bury any differences you might have with him and work for the success of the colony. Now what do you say?"

Tom glanced at his two unit mates. Roger shuffled his feet and looked down at the deck, while Astro studied the bulkhead behind the governor's desk. "If that's the way you want it, sir," said Tom, "then I guess we'll have to play along."

"I guess you will," said Hardy, a slight edge creeping into his voice. "And if you tell me any more wild, unsubstantiated stories such as Vidac sending you to scout an unknown asteroid cluster in a poorly equipped rocket scout—well, I'll have to take stronger measures to ensure your co-operation. Do I make myself clear?"

"Yes, sir," chorused the cadets. They saluted and left the room.

"Well," said Tom, when they had reached the safety of their quarters, "I guess that just about does it."

"Yeah. We played our last card," grumbled Roger. "Either Hardy is the smoothest crook in the world, or Vidac really has him space happy."

"I wouldn't bet that it isn't a little bit of both," commented Astro.

The hatch suddenly opened and the cadets spun around nervously.

"Jeff!" they yelled in unison.

"Hello, guys," said the enlisted man glumly as he entered the room. He slumped on Tom's bunk. "I've got bad news."

"We already know," said Roger. "Vidac met us before we got out of the air lock. He couldn't wait to tell us."

"He asked us if we knew anything about it," said Tom. "We told him No."

"I lied myself," said Marshall. "I—I was going to do a little work on it, hoping to have it ready for you when you got back, but—" He stopped and shrugged his shoulders.

"Never mind, Jeff," said Tom. "If Vidac suspected we were building that communicator, he'd have found it sooner or later. The thing is, what are we going to do now?"

"I'll tell you in three words," growled Astro. The others looked at the big cadet. "Sweat it out," he said finally.

Tom nodded his head. "You're right, Astro. We're tied hand and foot to this guy for the next eleven months."

"How about Governor Hardy?" suggested Jeff.

"We just saw the illustrious governor," said Roger bitterly. "And the only question left in our minds is whether Hardy is working for Vidac, or Vidac for Hardy. No one could be as blind to what's going on as Hardy seems to be."

"Three words," said Tom half to himself. "Sweat it out!"

* * * * *

Like a gleaming diamond on the black velvet of space, the sun star Wolf 359 loomed ahead of the giant fleet, solitary and alone in its magnificence. With the *Polaris* leading the way for the mass of space vessels that stretched back and away, the pioneers and their families blasted through the last million miles that separated them from their new home in deep space.

Fifty-five billion miles from their own sun, they were about to establish a colony as their forefathers had done centuries before them. Like the first colony in the new world, then on the Moon, Mars, Venus, Mercury, Titan, and Ganymede, and hundreds of outposts in the asteroid belt, these Earthmen were braving new dangers and hardships, leaving the comfort of their homes to establish the first star colony. Inside each of the massive ships, Earthmen gathered around the scanners to look ahead across the abyss of space and gaze at their new home. Finally the momentous order came crackling through the teleceivers.

"*Polaris* to fleet! Single up for landing! Ships to follow the *Polaris* and touch down in order of their fleet numbers!"

On the control deck of the command ship, Vidac began barking orders to Tom. The three cadets had been reassigned to their original stations because of their intimate knowledge and sure handling of the giant ship.

"Prepare the ship for touchdown, Corbett!" yelled Vidac.

"Yes, sir," said Tom. He flipped on the intercom and barked orders to Astro below on the power deck.

"Stand by to reduce thrust to one-quarter space speed, Astro. Stand by forward nose braking rockets."

"Right," replied Astro.

"Hey, Roger!" yelled Tom. "How far are we from the surface?"

"Estimated distance to touchdown is two hundred thousand feet," answered Roger crisply.

"Reduce thrust to minimum, Astro," barked Tom, his eyes watching every dial and meter on the control board.

"Distance one hundred fifty thousand feet," reported Roger. "Looks like an open plain right below us. Maybe we'd better try for it, eh?"

"I guess so," said Tom. "Relay your scan down here to the control-deck scanner." Tom gave it a quick glance, saw that there was plenty of room on the plain Roger had mentioned to hold the entire fleet, and turned to Vidac. "Request permission to touch down, sir," said Tom.

"Granted," replied Vidac.

The curly-haired cadet turned back to the control board and once again checked his instruments. Behind him, Vidac and Governor Hardy watched the surface of Roald as the *Polaris* began to turn for her tailfirst landing.

"Cut all thrust at one hundred thousand feet, Astro," ordered Tom.

"Aye, aye," replied Astro.

"One hundred ten thousand feet," reported Roger. "One-O-seven, one-O-four, one hundred!"

Almost immediately, the blasting roar of the rockets was cut to a whisper and the ship began to drop toward the surface of the satellite.

Vidac jumped forward and grabbed Tom's shoulder. "What're you trying to do, Corbett? We're falling!"

"I have no data on the gravity of Roald," said Tom calmly. "The best way to find out is to check our rate of fall. I can then gauge the amount of braking power necessary."

Behind the two spacemen, Governor Hardy smiled. He stepped forward and tapped Vidac on the shoulder. "Whatever your difficulties coming out here with them, Paul, you've got to admit that they know how to handle this ship."

"Yeah," growled Vidac. "Too bad they don't know how to handle themselves as well."

Tom smarted under the sarcasm but concentrated on the task of getting the ship safely to the ground.

"Fifty thousand feet," reported Roger. "I'd say that the gravity of Roald is about 2.7 over Earth's, Tom."

"O.K., Roger," replied Tom. "Give her one-quarter thrust, Astro. We'll have to feel our way down."

As the rumble of the main rockets started again, Tom waited for the ship's descent to be checked, and sudden concern welled up within him as the ship failed to respond.

"Thirty-five thousand feet," reported Roger from the radar deck.

"Full thrust, Astro," called Tom, anxiously watching the approaching surface of Roald. He checked his instruments again and his heart jumped up into his throat. The needles of all the gauges and meters were dancing back and forth as though they were being flicked with invisible fingers.

Tom grabbed the intercom and shouted wildly. "Astro! Emergency space speed! We've got to get out of here!" Tom whirled around to face Vidac and Hardy. "You'd better call Professor Sykes up here, right away," he declared.

"Why? What's the matter?" stuttered Hardy.

"Something's interfering with our whole electrical system, sir," replied the cadet.

"What's that, Corbett?" snapped Sykes, stepping quickly through the hatch into the control room. Tom was about to repeat his statement when suddenly the rockets blasted loudly, and the ship tossed and rocked, throwing everyone off his feet. Astro had applied emergency power to his reactors, sending the *Polaris* hurtling back into the safety of space.

"By the rings of Saturn," bawled Sykes, after he had adjusted to the sudden acceleration, "I'll have that space-brained idiot court-martialed for this!"

"It's not his fault, Professor," said Hardy, getting to his feet again. "If Corbett hadn't ordered emergency space speed, we'd all be smeared across that plain down there." He pointed to the scanner screen where the surface of Roald could be seen receding rapidly.

"Umph!" snorted Sykes, "let me take a look at that control board."

Quickly and surely, the professor tested every major circuit in the giant panel. Finally he straightened up and turned to face Hardy.

"Governor," he said quietly, "I'm afraid you'll have to forget about landing on Roald until I can find the reason for the disturbance."

"Then it's not caused by any malfunction aboard the ship?" Vidac broke in.

Sykes shook his head. "Whatever force field caused those instruments to react the way they did came from Roald. You'll have to stand off until I can go down and make a complete investigation."

"Well, what do you think it is?" asked Hardy.

"It might be one of a hundred things," replied the professor. "But I wouldn't attempt to land down there until we know what's causing the interference and can counteract it."

"Space gas!" exploded Vidac. "Is this another of your tricks, Corbett?"

"Tricks, sir?" asked Tom stupidly, so incredible did the lieutenant governor's question seem.

"Yes, *tricks!*" roared Vidac. "Get out of the way. I can take this ship down." He sat down in the pilot's chair and called Roger on the radar bridge. "Notify all the other ships they are to stand off until we have made a secure touchdown!"

"Yes, sir!" replied Roger.

"Professor," whispered Tom, "do something!"

Sykes looked at Tom a moment and then turned to leave the control deck. He paused in the hatch to call back in a low voice, "What can you do with a madman?"

Helplessly, Tom turned to appeal to Governor Hardy but changed his mind and stood beside Hardy, crossing his fingers.

At the controls Vidac gripped the acceleration lever and called into the intercom, "Stand by for touchdown. Power deck, cut all thrust!"

"Power deck, aye, sir," reported Astro.

As the main rockets were cut out again and the *Polaris* slipped back through space toward the surface of Roald once more, Tom stood behind Vidac with Hardy and watched the instruments begin their strange gyrations again. The cadet glanced at Hardy, whose face was impassive.

"Sir," asked Tom quietly, "isn't there something we can do?"

"Keep quiet, Corbett," snapped Hardy. "That's what you can do!"

"Yes, sir," replied Tom. He turned away to climb into the nearest acceleration chair and strap himself in. He knew it was possible for the *Polaris* to land successfully. He felt sure he could have made a touchdown on the satellite without trouble, but his first thought had been for the safety of the others aboard the ship. Now it was out of his hands and he grudgingly admired the way Vidac was handling the giant rocket cruiser.

"Twenty-five thousand feet to touchdown," reported Roger.

So far, Vidac had kept the ship dropping at a steadily decreasing rate. But the tension on the control deck mounted as the surface of Roald loomed closer and closer.

"Fifteen thousand feet," reported Roger.

Governor Hardy walked to a near-by acceleration chair and strapped himself in.

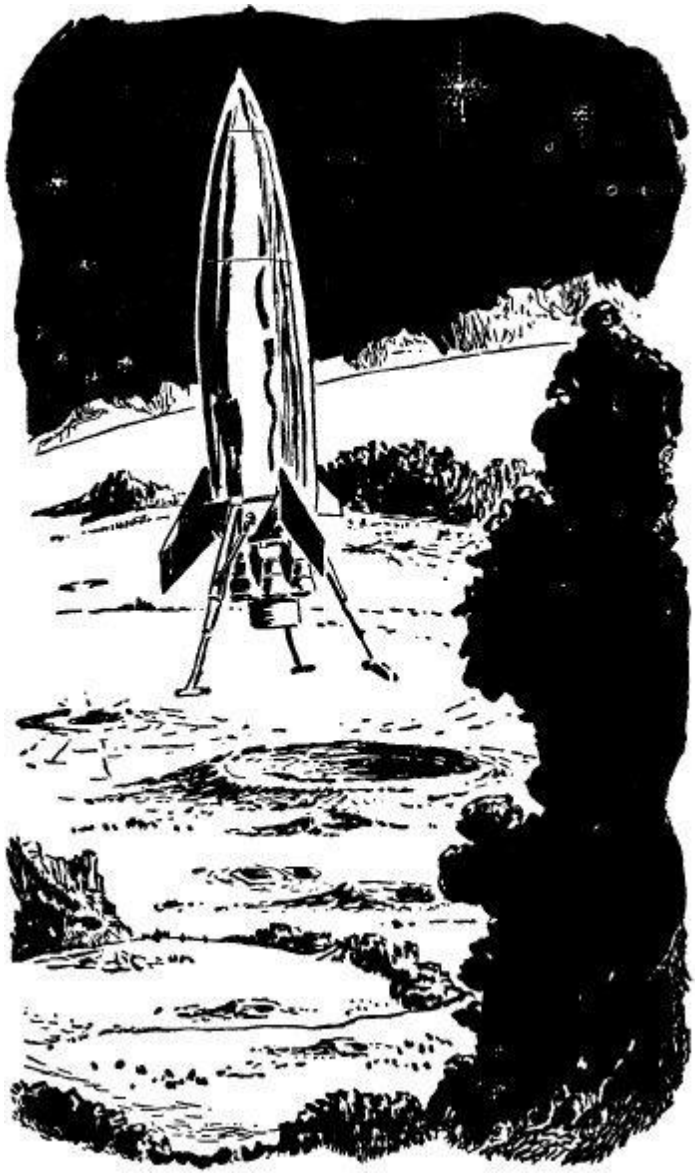
"Ten thousand feet!" yelled Roger.

"Power deck, give me three-quarters thrust!" ordered Vidac. Tom heard the whine of the rockets on the power deck increase with a sharp surge.

"Seven thousand feet," reported Roger.

Vidac remained cool, staring at the control board. Tom wondered what it was he was watching, since there wasn't one instrument that registered properly.

"Five thousand feet!" screamed Roger. "Spaceman's luck!"



The Polaris landed safely on the surface of the satellite

Immediately Vidac ordered Astro to apply full thrust to the main rockets. The great ship bucked under the sudden acceleration, and Tom could feel the tug of war between the cruiser's thrust and the satellite's gravity. The ship

continued to drop at slightly lessened speed, but still too fast to land safely.

Tom waited for Vidac to order emergency thrust to counter the pull of the satellite. They were dropping too fast. He watched Vidac and waited for the only order that would save the ship. If he doesn't do it now, thought Tom, it will be too late.

"Vidac!" yelled Tom. "Emergency power! We're falling too fast!"

Vidac didn't answer. "Vidac!" screamed Tom again. "Emergency power!"

The man didn't move. He sat in front of the control panel as though paralyzed. Tom slipped off the straps of the acceleration chair and raced to the intercom. Vidac made no attempt to stop him.

"Astro! Full emergency thrust! Hit it!"

In immediate reply, a jolting burst of power blasted through the tubes, jerking the ship convulsively and throwing Tom to the deck. A loud, crashing sound filled the ship, followed by a strange stillness. Dimly Tom realized that the rockets had been cut and they were safely on the surface of the satellite.

He picked himself up and turned to face Vidac. The lieutenant governor was unstrapping himself from the pilot's chair. His face was ashen. He stalked out of the control deck without a word.

"Touchdown!" screamed Roger from the radar deck. "We made it. We're on Roald!"

Tom heard the blond-haired cadet, but his unit mate's excitement did not register. He was staring at the open hatch. "He lost his nerve," said Tom aloud, half to himself and half to Governor Hardy who was unstrapping himself from the acceleration chair. "He quit cold!"

"He certainly did," said Hardy. "And if it wasn't for your quick thinking, we'd be spread all over this satellite!"

Roger tumbled down the ladder from the radar deck. "Nice work, Tom," he shouted, slapping his unit mate on the back. He followed Tom's gaze past Hardy to the empty hatch.

"Say, can you imagine a guy like that suddenly losing his nerve?" asked Roger.

"No," replied Tom. "If I hadn't seen it with my own eyes I wouldn't believe it!"

"This will go on your official record of course," said Hardy. "I'll see that you're rewarded in some way, Corbett."

"Thank you, sir," said Tom. "But if you could just assure me that my reports back to the Academy will get through, I'll be very happy."

"You mean they're not being sent?" asked Hardy, seemingly quite concerned.

"No, sir," replied Tom. "At least I don't think so. And this is the first time I've had a chance to tell you."

"Well," said Hardy, "there's a lot to be done now that we've arrived, Corbett. I'll take this matter up with Vidac as soon as I get a chance." He turned and walked off the control deck.

"Well, I'll be a space monkey!" exclaimed Roger.
"Yeah," agreed Tom, "I'll be two of them!"

CHAPTER 11

"Of the thousand ships that blasted off from Earth there are only six hundred thirteen left that can be used in the construction of the first colony of Roald."

Governor Hardy's voice was firm as he addressed the assembled colonists and spacemen from the air lock of a space freighter.

There was a murmur among the colonists at this news. They knew that the landings on the satellite had been costly; that many ships had crashed as a result of the unexplained interference with the ships' instruments. And since each ship had been designed to be cannibalized into houses, workshops, and power plants, they realized the plans for the settlement would have to be radically revised.

Once the *Polaris* had landed safely, the other ships of the fleet had followed, each trying to find the delicate balance between the pull of the satellite and the thrust of their rockets. And since many of Vidac's hand-picked crewmen were in control, a large number of the valuable and irreplaceable ships and their supplies had been lost. They didn't burn when they crashed. Fire could have been easily extinguished. Instead, deadly radiation from the cracked firing chambers flooded the ships and their cargo, rendering them useless.

Tom, Roger, and Astro stood with Jeff Marshall and the Logan family as the governor outlined their initial objectives on the satellite.

"First," declared Hardy, "we have to build atmosphere booster stations. We can't live without oxygen and there isn't enough oxygen in the atmosphere to sustain us very long. Second, we have to establish our ownership boundaries and begin planting our crops. We can't live without food. Third, we have to live more frugally than ever before in order to maintain our reserves of food and essential items. The nearest supply center is fifty billion miles from here." He paused and surveyed the sea of grim faces before him.

"We've had a hard blow," he continued, "in losing so many ships and their supplies, but it will not defeat us. We all came here with the understanding that it would be difficult. We did not expect an easy life. We knew it would be tough, but not quite as tough as it's going to be now. But we will win! And remember, we are no longer people of Venus, Earth, Mars, or Titan, we are citizens of Roald!"

There was a roar of approval from the colonists. A band began to play and the assembly was adjourned.

"He talks sense," Hyram Logan commented. "Real fighting sense!"

"I'd like it a lot better, though," replied Astro, "if he didn't make it sound like a rally."

"Yeah," agreed Roger. "He sounded as though he was pepping up his team to do or die in a mercuryball game."

"This is no game," said Tom. "We're fighting starvation, perhaps death! And, believe me, if this colony goes the way of all space dust, it will be a long time before there'll be another fleet of a thousand ships gambled on a star colony!"

Logan nodded his head. "That's the way I look at it, Tom," he said. "Regardless of what kind of beef we might have with Hardy or Vidac and his crew, we all have to work together to make Roald a colony. A successful colony!"

Returning to Fleet Ship Number Twelve, which was to be used for quarters by the colonists until their homes could be erected, the three cadets and Jeff Marshall said good-by to the Venusian farmer and continued on toward the *Polaris*.

"Did Professor Sykes find any indication of what might have caused the instruments to act up during the landing, Jeff?" asked Tom. The curly-haired cadet referred to the professor's investigation started as soon as the *Polaris* had landed.

"Nothing so far, Tom," replied Jeff. "But it must be something big. He packed a lot of gear into a jet boat and blasted out of here this morning."

"What do you suppose it is?" asked Astro.

"I don't know," replied Jeff. "I can't even guess."

"I can," said Roger, "and if it's what I think it is—well, I just hope it isn't, that's all." The blond-haired cadet stopped talking abruptly.

Tom, Astro, and Jeff looked at each other. Finally Tom asked, "Well, what do you think it is?"

"There's only one thing I know really well, Tom," replied Roger. "Just one thing, and that's electronics. I may be a jerk about a lot of things, but I know electronics."

"O.K.," said Astro. "You know electronics. But what has that got to do with the instruments going out of whack?"

"The only natural element that would cause such disturbance is uranium."

"Uranium!" breathed Tom. "You mean uranium pitchblende?"

"I mean uranium!" snapped Roger. "Uranium pitchblende isn't concentrated enough to cause a reaction like that on the instruments. It would take a big chunk of pure uranium to do the job."

"But if that were so," Astro protested, "wouldn't the instruments still be acting up? In fact, wouldn't we start feeling the effects of the radiation?"

"Not necessarily, Astro," said Tom. "I understand what Roger's getting at. The uranium could be located in another sector of the satellite, on the other side, maybe. It could be throwing radiation out into space without affecting us

here."

"You mean we're *under* the effects?" asked Astro.

"Looks like it," replied Tom. "But on the other hand," he continued, "why wasn't there some report of it when the first expedition came out to look over the satellite?"

"I can't answer that question, Tom," answered Roger. "But I'd be willing to bet my last credit that there's uranium on this space-forsaken rock. And a whopping big deposit of it!"

They reached the air lock of the *Polaris* and climbed wearily aboard. At the end of the first day, on the new satellite, they were exhausted. A few minutes after entering the giant cruiser they were all sound asleep.

Dawn of the second day on Roald saw the vast plain crowded with men at work. The first community objective was the construction of an atmosphere station, and before the woman and children had finished lunch, they were breathing synthetically produced air.

Working from a master plan that had been devised back at Space Academy before the expedition blasted off, the colonists were divided into three separate crews: the wreckers, those who would remove essential parts from the spaceships as they were needed; the movers, those who would haul the parts to construction sites; and the builders, those who would take the parts and construct the community buildings.

The first and most difficult job was building a gigantic maneuverable derrick and jet barge for removing, hauling, and installing the heavy machinery.

Astro had been assigned to the crew responsible for the construction of the jet barge. With many of the vital parts aboard the crashed freighters still hot with radioactivity, the crew had to improvise. And Astro, with his native talent for mechanics, soon became the unspoken leader of the crew. Even the supervisor acknowledged the young cadet's superior ability and allowed him a free hand in the construction of the barge. After six hours of hard labor, the "mover" was finished. It was not the streamlined machine its designer had conceived, but it was effective, in some cases, more so than the designer imagined. A low, flat table roughly three hundred feet square, it moved on sledlike runners and was powered by two dozen rockets. On each of the four sides there was a two-hundred-foot boom which could be swung around in a 360° arc and was capable of lifting three hundred tons. Astro's most outstanding improvement on the original design was what he termed "adjustment rockets," placing single rockets that could be individually controlled on all four sides, so that the operator of the giant jet barge could jockey into perfect position anywhere. The machine quickly demonstrated it could move anything, anywhere.

Roger worked with the supervisor of the assembly groups, ordering supplies and machinery as they were needed from the wrecking crews and seeing that they were sent to the right place at the right time. One of his first

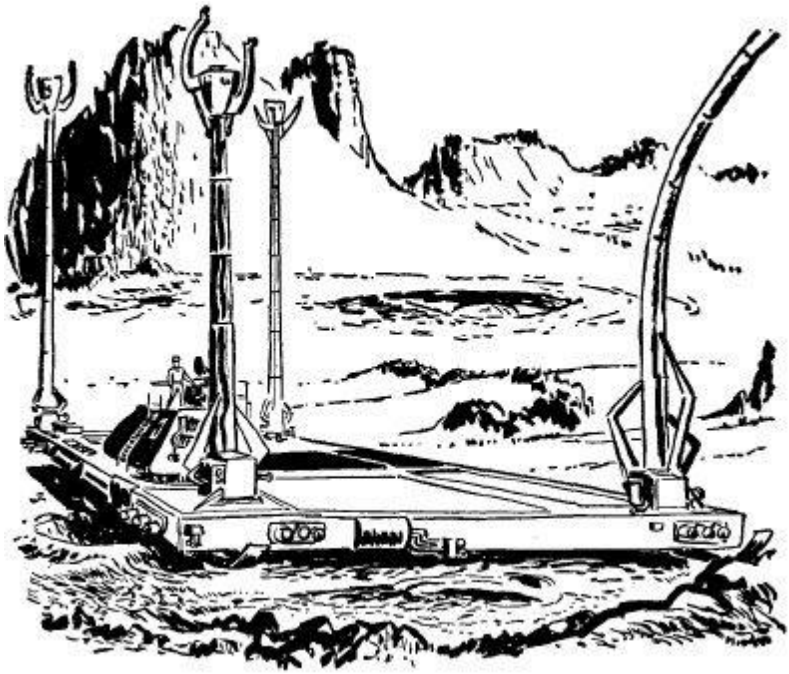
jobs was the assembling of materials for the construction of the Administration Building of the colony. Less than five days after the foundation had been dug, the last gleaming sheets of Titan crystal were welded together and the building towered over the plain, a glistening monument to man's first flight to the stars.

Tom had been assigned to work closely with Vidac, who was responsible for all the construction on Roald. The young cadet welcomed the chance to observe the man in action, and time after time he found contradictions in the character of the lieutenant governor. Vidac's attitude and behavior in his drive to build the colony were completely different from his actions on the long space flight. He was a man of firmness and immediate decision. Shooting from one project to another in a jet boat, he would listen to the supervisors' complaints, make a snap decision, and then head for another project. Once Tad Winters and Ed Bush, who had taken over Astro's jet barge, had hesitated when trying to transfer a four-hundred-ton lift. A bank of atomic motors from Fleet Ship Number Twelve was to be installed in the main power plant for the colony. The motors were in a position where it was impossible to use more than one of the booms for the lift. Bush and Winters tried futilely to maneuver the jet barge into position where they could use two booms, and when Vidac arrived he promptly took charge. Using Tom as signalman, Vidac stood at the controls of the giant derrick, and after testing the strain on the five-inch cables, he yelled down to the cadet:

"Think they'll hold, Corbett?"

Tom looked at the derrick, the motors, and the boom Astro had constructed. Finally he nodded his head. If anyone else had built the jet barge, Tom would have said No, but he knew when the Venusian built something it was built solidly.

Stepping back out of range, Tom watched Vidac slowly apply power to the rockets on the jet barge. Slowly, inch by inch, the boom began to bend under the load. Vidac continued to apply power. The boom bent even more and still the motors would not lift free of the ground. The rocket exhausts on the jet barge glowed fiery red under the sustained surge of power. All over the colony, men stopped work to see if the jet barge would handle the outsized lift.



Vidac sat at the controls calmly and watched Tom. The curly-haired cadet continued to wave his hand to lift the motors. The boom continued to bend, and just as Tom thought it must snap, the motors lifted free and Vidac swung them around to the table top of the barge. He climbed down and walked over to Bush and Winters.

"Next time you're afraid to try something and waste valuable time," he barked, "you'll pay for it!"

He turned to Tom. "Let's go, Corbett," he said casually.

Day after day the work continued and finally, at the end of three weeks, the dry barren plain had been transformed into a small city. Towering above the city, the Administration Building glistened in the light of their new sun, Wolf 359, and streets named after the colonists radiated from it in all directions, like the spokes of a giant wheel.

There were houses, stores, and off the central square a magnificent assembly hall that could be transformed into a gymnasium. There were smaller community buildings for sanitation, water, power, and all vital services necessary to a community. Along the wide spacious streets, still being paved, converted jet boats hummed. Women began to shop. Men who had helped build the city the day before, now appeared in aprons and began keeping account books until a monetary system could be devised. A medical exchange that also happened to sell spaceburgers and Martian water was dubbed the "Space Dump" and crowds of teen-agers were already flocking in to dance and frolic. A pattern of living began to take form out of the dead dust of the star satellite. Several of the colonists who had lost everything aboard the crashed ships were made civilian officials in charge of the water, sanitation, and power departments.

The three cadets worked harder than they had ever worked before. Once, when the jet barge needed to be refueled, Vidac had ordered them to salvage the remaining reactant from the crashed ships and they worked forty-eight hours in lead-lined suits transferring the reactant fuel to the jet barge.

In addition, Roger was now hard at work building a communications center and a network all over the satellite. Communicators were placed at intervals of ten miles, so that any stranded colonist was within walking distance of help.

The four hundred ships that had crashed had been loaded mostly with farming equipment, and the seriousness of the situation was discussed at great

length by Logan and other farmer colonists. Vidac had tried to salvage some of the more basic tools needed in farming the dusty satellite soil, but nothing had come of it. Three to five years had to pass before the radioactivity would be harmless.

"We'll have to farm with chemicals," announced Vidac finally to a meeting of the farmers. "I know that chemical crops are not as tasteful as naturals, but they are larger, more abundant, and nourishing." He paused and looked at the men. "However, even chemicals are not the whole answer."

"Well," said Hyram Logan, who had become the unofficial spokesman for the farmers, "give us the chemicals and let's get to work. Everyone here knows how to grow crops out of a test tube!"

"I'm afraid it won't be as simple as that," said Vidac. "Perhaps you remember that you paid over part of your future profits during the trip out from Atom City?"

There was a murmur from the group of men as the outrageous incident was brought up. Most of the men felt that Vidac had been directly responsible. Vidac held up his hand.

"Quiet, please!"

The men became silent.

"You will have to purchase the necessary material for farming from me. You will sign over one-half of your future profits to the treasurer of the Roald City Fund, or you don't farm."

"What's the Roald City Fund?" demanded Isaac Tupin, a short, thin man with an uncanny knack for farming. He had been very successful on Mars and had been asked to institute his methods of desert farming on the dusty satellite.

"The Roald City Fund," said Vidac coldly, "is an organization dedicated to the good and welfare of the citizens of Roald."

"Who's the treasurer?" asked Logan.

"I am," said Vidac. "Governor Hardy is now in the process of setting up Roald currency. Each of you will be allowed to borrow against future yields, a maximum amount of five thousand Roald credits. This will be your beginning. If your crops fail"—Vidac shrugged his shoulders—"you will forfeit your land holdings!"

There was a storm of protest from the assembled farmers. They stood up in their chairs and hooted and howled. Vidac faced them coldly. At last they fell silent and Vidac was able to speak again.

"I would advise you to consider carefully the proposal I've made here. Your equipment—the equipment given to you by the Solar Alliance—has been lost. The chemicals which you are now being offered are the property of the official governing body of Roald. We cannot give you the material. We can loan it to you, providing that you guarantee the loan with your future profits. All those interested may draw the necessary supplies from Tad Winters and Ed Bush in the morning."

He turned and walked out of the hall.

"We'll go to the governor!" shouted Logan. "We won't be treated like this. We're free citizens of the Solar Alliance and under their jurisdiction. We know our rights!"

Suddenly Tad Winters and Ed Bush appeared, seemingly from nowhere. A sneering smile on his face, Winters held two paralo-ray guns and covered the group of farmers while Bush slipped up behind Logan and hit him on the back of the neck. The elderly man sank to the floor.

"Now get this!" snarled Winters to the colonists. "The joy ride is over! You take orders, or else!"

CHAPTER 12

"What do you want?" growled Ed Bush. He stood at the air lock of the *Polaris*, a brace of paralo-ray guns strapped to his side. "Why ain't you out growing corn?"

Hyram Logan smiled. He held out the books and study spools the cadets had given him on the trip out. "I wanted to return these to the cadets. They lent them to my son. He wants to be a Space Cadet when he's old enough."

"I can think of a lot better things he could be," sneered Bush. He jerked his thumb toward the entrance port of the giant spaceship. "All right, get aboard. You got a half-hour."

Logan entered the cruiser quickly and made his way to the cadets' quarters. Tom was asleep. Roger and Astro were playing a game of checkers. When Logan entered, the two cadets quickly forgot their game and turned to greet the farmer.

"Hiya, Mr. Logan!" said Astro. "You saved me from doing a wicked deed."

Logan stared at the big cadet, puzzled. "How's that again, Astro?"

Roger laughed. "He's joking, sir. I was about to clean him out in a game of checkers."

Logan sat wearily on the side of the nearest bunk. "I wish all I had to lose was a game of checkers."

He quickly filled in the details of the meeting between Vidac and the farmers. Tom had awakened by this time and heard the last of the older man's story. He turned to his unit mates.

"Well, it looks as though we're right back where we started," he said. "And here I thought Vidac was O.K. after the way he worked during the past ten days setting up Roald City."

"I've been talking to some of the other men," said Logan bitterly. "They feel the same way I do. Something's got to be done about this!"

"But what?" asked Roger.

"And how?" chimed in Astro.

"Force, by the stars!" yelled Logan. "And when I say force, I mean throwing Vidac and Hardy and his crew out!"

"You can't do a thing like that, sir," said Tom. "It would be playing right into their hands. Remember, Vidac and Hardy represent the Solar Alliance here on Roald. If you tried force, you would be charged with rebellion against the Solar Alliance!"

"Well," snorted Logan, "what have *you* got in mind?"

"When the enemy is in full control, Mr. Logan," said Tom quietly, "the best thing to do is draw back and regroup, then wait for the right moment to attack. Vidac wants you to revolt now. He's expecting it, I'm sure. But if we wait, he can't get away with making you mortgage your land holdings or your profits. Somewhere along the line he'll slip up, and when he does, that's when we start operating!"

Meanwhile, in his luxurious office in the Administration Building, Vidac sat behind a massive desk, talking to Tad Winters.

"Now that the land boundaries have been established, and the colonists have their little pieces of dirt," he said, "we can go right to work. I've told the farmers that they'll have to sign over half of their profits to get chemicals to farm with. They're already talking about revolt, which is just what I want them to do. Let them rebel. We can throw them into the brig, send them back to Earth, and take over their property in the name of the City of Roald!"

"Which is you," said Tad Winters with a smile. "That's the smartest idea you've ever had, boss!"

"In a short while," continued Vidac, "the entire satellite will be mine. Ships, houses—and—"

Suddenly the door opened and Ed Bush hurried into the room. "Boss!—boss!" he shouted breathlessly. "Logan is spilling everything to the Space Cadets!"

"What?" cried Vidac. "How did that happen?"

"He came to the *Polaris*," whined Bush. "Said he had some books and stuff he wanted to return, so I let him aboard. Luckily I followed him and listened outside the door."

"What did they talk about?" demanded Vidac.

"Logan told them about the meeting with the farmers the other night. He wanted to get the colonists together to start a rebellion, but Corbett convinced him it would be the wrong thing to do."

"What?" yelled Vidac. He rose and grabbed Bush around the throat. "You dirty space crawler! You've ruined everything. All my plans messed up, because you let a hick and a kid outsmart you!"

"I'm sorry, boss," Bush whined. "I didn't know."

"Get out of here!" Vidac snarled. "I should have known better than to jeopardize the whole operation by signing on a couple of space jerks like you two! Get out!"

The two men left hurriedly and Vidac began to pace the floor. He was acutely aware that his scheme was out in the open. All of the careful planning to keep the cadets off balance and unsure of him until he could make his move was lost. He regretted not having gotten rid of them before, out in space, where unexplained accidents would be accepted. He had placed too much confidence in Bush and Winters and had underestimated the cadets. Something had to be done—and fast! But it couldn't be anything obvious, or his plans of taking over Roald would fail.

The buzz of the teleceiver on his desk interrupted his train of thought and he flipped open the small scanner.

"Professor Sykes to see you, sir," reported his aide in the outer office.

"Tell him to come back later," said Vidac. "I'm busy."

"He says it's very important," replied the aide.

"All right—all right, send him in," snapped Vidac and closed the key on the teleceiver irritably. A second later the door opened and Professor Sykes entered hurriedly. He was dirty and dusty from his ten-day stay in the desert wastes of the satellite.

"Vidac!" cried Sykes excitedly. "I've just made the most tremendous discovery in the history of the Solar Alliance!"

Vidac eyed the professor calculatingly. He had never seen the old man excited before. "Sit down, Professor," he said. "You look as if you just walked through the New Sahara on Mars. Here, drink this!" Vidac offered the professor a glass of water and waited expectantly.

Sykes drank the water in one gulp and poured another glass before taking his seat. He began digging into his pouch and pulling out sheets of what appeared to be exposed film. He rummaged around for his glasses, and after adjusting them on his hawklike nose, began to sort the sheets of film.

"When the instruments on the *Polaris* went crazy out in space," began Sykes nervously, "I knew there was only one thing that could cause such a disturbance. Radioactivity! As soon as we landed, I began to look for the source. At first I used a Geiger counter. But I couldn't get an accurate count. The counter was as erratic as the instruments. So I tried film. Here is the result." He handed the exposed film to Vidac. "This film was protected by lead sheeting. It would take a deposit of pitchblende richer than anything I've ever heard of to penetrate the lead. But look at it! The film is completely exposed. The only thing that could do that is a deposit of uranium at least seventy-five per cent pure!"

Vidac studied the films closely. "Where is this strike?" he asked casually. "Is it on land that has been parceled out to the colonists?"

"I don't know whose land it's on. But I'm telling you this! It's going to make someone the richest man in the Solar Alliance!"

Sykes fumbled in his pouch again and this time brought out a dirty piece of paper. "This is a report giving the location and an assay estimate. It has to be sent back to the Solar Council right away. Have communications with Earth been established yet?"

Vidac shook his head and reached out for the report. "If what you say is true," he said coolly, "we can always send it back on the *Polaris*."

He took the report and read it over. He recognized immediately the danger of Sykes's discovery. He laid the film and the report on his desk and faced the professor. "And you are absolutely sure of your findings?"

Sykes snorted. "I've been working with uranium all my life. And I should know a deposit like this when I see one!"

Vidac didn't answer. He turned to the teleceiver and flipped it on. "Send Winters and Bush in here right away," he told the aide.

"You going to send those two back with this report?" asked Sykes. "Personally I'd feel a lot safer if you'd send those Space Cadets and my assistant, Jeff Marshall. They may be young, but they can be depended on."

"I'd rather send men *I* can depend on, Professor," said Vidac. "As you say, the cadets are still quite young. And this report is too important to take chances."

The door opened and Winters and Bush entered.

Vidac stuffed the report and the exposed film into a dispatch case and quickly sealed it. He handed it over to Winters. "Guard this with your life," said Vidac seriously.

"Wait a minute," said Sykes. "Aren't you going to tell Governor Hardy about this?"

"This is so important, Professor," said Vidac, "that I think we should get it off at once. There's plenty of time to tell the governor."

"Well, all right." Sykes got up and stretched. "After almost two weeks in that desert, I'm ready for a nice clean bed and something to eat besides synthetics." He turned to Winters and Bush. "That pouch is worth more than any man ever dreamed of. Be sure you guard it well!"

"You can depend on us, Professor," said Winters.

"Yeah," said Bush. "Don't worry about a thing."

The three spacemen watched the professor leave. As soon as the door closed, Vidac grabbed the pouch out of Winters' hand. His face hardened and his eyes were narrow slits.

"You messed up one operation for me, but luck has given us another chance. If you mess this one up, I'll dump you into space for a long swim. Now listen to me!"

The two spacemen crowded close to Vidac's desk.

"Sykes has just made the biggest discovery in the universe. It's worth billions! The cadets are in our way, and as long as the professor is alive, so is he! We're going to wipe them out. I want you to take the professor to that asteroid we spotted a few days ago and keep him there. I'm going to accuse the cadets of getting rid of the old man, so we can eliminate the cadets, the professor, and keep the uranium secret for ourselves. His report says it's located at section three, map eight. That's the property given to Logan. After we get rid of the cadets and the professor, we'll have plenty of time to bounce old Logan. This is the sweetest operation this side of paradise. And it's all mine!"

"But what kind of proof will you have that the cadets did something to the old man?" asked Winters. "Getting rid of Space Cadets is a pretty tricky job."

"Tomorrow I'll assign the cadets to work with the professor again. That jerk, Manning, has a sharp tongue. I'll set up something that will get them into an argument in the presence of some of the colonists. When Sykes disappears right after that, we'll have witnesses to prove that Manning was gunning for the old man!"

"But how do you know that Manning will get mad enough?" asked Bush.

Vidac smiled. "I know Manning. And besides, I know what I'm going to do, to *make* Manning blast his tubes!"

CHAPTER 13

The first real community problem came when it was learned that the entire supply of school study spools were lost in the crashed ships. There was talk among the colonists of sending a ship back to Earth at once for replacements, but Vidac stepped in and took over. He called a meeting with the three Space Cadets, Jeff Marshall, and Professor Sykes, and told them of his plan.

"I want you to make new study spools on every subject you can remember," Vidac ordered. "Simple arithmetic, spelling, geography, celestial studies, physics, in fact, everything that you learned in prep school—and before that."

"That may be all right for boys," grumbled Professor Sykes, still smarting under the refusal of his violent protest at being taken from his uranium studies and placed in charge of the school problem. "But what about the girls? There are quite a few of them and they need special consideration."

"What kind of consideration?" asked Vidac.

"Well, whatever it is a girl has to know. Sew, cook, keep house, take care of children and—and—" The professor sputtered, hesitated, and concluded lamely, "A—a lot of things!"

Vidac smiled. "Very well. I'll speak to a few of the mothers and see if I can't get you some assistance. In the meantime, I want you, Corbett, Manning, Astro, and Marshall to do what you can about beginning the children's schooling."

"All right," snorted Sykes, "but I can think of better ways to spend the next two or three weeks."

"And one more thing, Professor," continued Vidac. "I want it clearly understood that you are responsible for the cadets. For what they do, or *don't* do!"

The faces of the three cadets began to flush under the sarcasm.

"And I want you to pay particular attention to Manning," Vidac went on. "He seems to have the biggest mouth in the unit."

"Well, he'd better watch his step with me or he'll find himself in a space hurricane!" Sykes said gruffly.

Vidac turned to Roger, but the blond-haired cadet was staring down at his boots. Vidac suppressed a smile. A few days under the whiplash tongue of Sykes, who would be anxious to finish the project and return to his own studies, and Manning would either buckle or flare up in open revolt. The lieutenant governor considered the possibilities and nodded in satisfaction.

"That's all, Professor Sykes," he said, rising and then turning to the cadets.

"And I'd advise you boys to give the professor all the aid you can."

"Yes, sir," said Tom. "We understand. We'll do our best."

"Dismissed," said Vidac.

The three cadets and Marshall saluted sharply and filed out of the room. But Professor Sykes hesitated and turned to Vidac.

"I'd like to speak to you a moment about the—ah—"

"That's been taken care of, Professor," replied Vidac. "Nothing to worry about."

"Has the complete report been sent back?" asked Sykes.

"I said it had been taken care of," answered Vidac coolly. "That's all you have to know! Dismissed!"

Sykes hesitated, nodded, and finally followed the cadets from the room.

Vidac turned and flipped on the intercom. "I want Ed Bush in here and I want him fast!" he barked. Then, swinging his chair around, he gazed out the window. He could see the entire city of Roald spread out before him and the sight filled him with pleasure. With the ownership of the uranium deposit and full control of the colony, mastery of the entire satellite and possibly the star system itself was only one short step away.

The door opened and Ed Bush hurried breathlessly into the room. "You sent for me, boss?" he asked.

Vidac swung around to face his lieutenant. "How much do you know about electronics and astrophysics?" he snapped.

"Why, as much as the average guy, I guess," answered Bush.

"Well, you're going to learn more," said Vidac. He began to outline his plan quickly. "I want you to hang around Sykes and the cadets on this new education project. They're going to make study spools for the colony kids. Manning will be in charge of electronics and astrophysics. Now here's what I want you to do…"

While the lieutenant governor was outlining his plan to his henchman, the three cadets were entering their new quarters on the lower floor of the Administration Building.

"Can you imagine that guy?" asked Astro. "Picking on Roger in front of Professor Sykes? He as good as told the professor to give Roger a hard time!"

As the big Venusian slammed one hamlike fist into the other, Tom nudged him in the ribs and then turned to Roger with a smile.

"Don't worry about it, Roger," said Tom. "We've got a job to do. Getting the school system going here on Roald is important, and whether you like him or not, Professor Sykes is the best man to handle it."

"I realize that, Tom," said Roger. "But I don't know how long I can—"

Jeff Marshall suddenly appeared in the doorway of their quarters. "Professor Sykes wants to see us right away, fellows," he announced. "And watch your temper, Roger. Just do the best you can, and the professor will leave you alone."

"You said it," agreed Tom. "Nothing in the universe talks as loudly as hard

work. Let's all show him."

The three cadets followed the enlisted spaceman out of the room and headed toward Sykes's quarters. Tom's thoughts were confused. He wasn't sure of his feelings any more. So much had happened since their departure from Space Academy. Then, suddenly, he realized that he hadn't sent his second report to Captain Strong. He wasn't even sure whether his first report had gotten through. He turned to Astro and remarked casually, "I wonder what Captain Strong is doing right now?"

"I don't know," replied Astro. "But I sure wish he was here!"

"Say it again, spaceboy," growled Roger. "Say it again!"

At that moment over fifty-five billion miles away, in his office high in the Tower of Galileo, Commander Walters was talking with Captain Steve Strong and Dr. Joan Dale. The stern-faced, gray-haired commander of Space Academy frowned as he read a report Joan Dale had just given him.

"Are you sure of this, Joan?" he asked.

"I'm positive, Commander," replied the beautiful young doctor of astrophysics. "The tests are conclusive. There is uranium on Roald!"

"But I don't understand why it wasn't discovered before this?" mused Strong. "It's been nearly a year since the first exploratory expedition out to Roald."

"Samplings of the soil of Roald were taken from all sections of the satellite, Steve," replied Joan. "On-the-spot tests were made by the scientists of course,

but there were no indications of uranium then. But cadets majoring in planetary geology tested the soil samples as part of their training. Several of them reported uranium findings. And I checked all their examinations carefully, besides making further tests of my own. That report is the result." She indicated the paper on Walters' desk.

"But you say the deposit is probably a large one," Walters protested. "How could it have been missed?"

"Not necessarily large, sir," said Joan, "but certainly of the purest quality."

Walters looked up at Strong. "Well, Steve?"

"Joan told me about it, sir," said Strong. "And since an investigation is probably the next step, I came over, hoping you'd let me go along." He paused and looked at Joan.

"Steve would also like to see his crew of Space Cadets." Joan smiled. "He hasn't received a report from them yet, and I think he's worried they might be involved in some mischief!"

"No report, eh?" asked Walters.

"No, sir," replied Steve. "I thought one would be waiting for me when I got back from Pluto. But there wasn't any."

"Ummmh!" mused Walters. He looked at his calendar. "About time for them to send in a second report too. Tell you what, Steve. They might be having a tough time setting up things out there on Roald. Suppose you get things organized to investigate the uranium report. And if no word comes in from the cadets by the end of the week, then you can blast off."

"Thank you, sir," said Strong. "Will you excuse me, sir? I'd like to get to work right away."

At Walters' nod, Strong saluted briskly and left the office. Walters turned to Joan.

"You know, I don't think he's half as interested in finding a big uranium deposit as he is in seeing those boys!"

* * * * *

In four separate soundproof cubicles in a small office in the Administration Building on Roald, the three space cadets and Jeff Marshall racked their brains to remember simple equations and formulas, knowledge learned years ago but long-since forgotten, for the more complicated subjects of space, time, and rocket travel. Now, trying to recall simple arithmetic and other elementary studies, the cadets and Marshall worked eighteen hours a day. Speaking directly into soundscribers and filling what seemed to be miles of audio tape, the four spacemen attempted to build a comprehensive library of a hundred carefully selected subjects for the children of Roald. Professor Sykes

listened to the study spools as they were completed. He listened carefully, reviewed their work, edited it, and made notes for follow-up comment. Then, at the end of the day, he would hold a final meeting with them, outline what he wanted the next day, and reject spools that he felt were not satisfactory. For older children's studies, the three cadets and Jeff had divided their work into four classifications. Roger covered electronics, astrophysics, astrogation, and allied fields. Astro took charge of rockets, missiles, power machinery, and applied uses of atomic energy. Jeff's work was biological, bacteriological, mineralogical, and geological. Tom covered social studies, government, economy, and history.

Resting as comfortably as possible, each of the four spacemen would sit and think. And when he had gone as far back as he could in his memory of formal education and acquired knowledge, he would begin to talk into the soundscriber. Of all the spools, Tom's were edited the least. And Professor Sykes had unbent enough to compliment the curly-haired cadet for his lucid thinking and acute memory. Astro's work needed the most editing. The giant Venusian found it difficult to explain what he did when he repaired atomic power plants, or how he could look at a piece of machinery and know instinctively when it was out of order. He worked twice as hard as the others, simply because Sykes made him do everything over.

On the other hand, Roger sailed along as smoothly as a jet boat. His grasp of the fundamentals in his field made it easy for him to fill the study spools with important information. Jeff, too, found it easy to explain the growth of plants, the function of bacteria, the formation of planet crusts, and other allied subjects.

So, day after day, Tom, Astro, Roger, and Jeff Marshall spent their waking hours in the cubicles searching their minds for every last precious drop of knowledge they could impart to the children of Roald.

Vidac's warning to Professor Sykes to keep an eye on Roger had been forgotten by everyone in the concerted effort to do a good job. And when the cadets and Jeff left their work one night after a loud argument between the professor and Roger over the best way to explain the theory of captive planets, they thought nothing of it. The argument hadn't been unusual. It had happened many times on the same score. Professor Sykes was prone to favor dry, factual explanations. And the cadets believed some of the theories needed explanations in terms a youngster could understand. Sykes did not object to this method, but was wary of losing facts and clarity in the method of instruction. In this particular case, Roger had given in to Sykes, but only after a heated argument. And when they went back to their quarters, there was none of the usual discussion. They were too tired. They fell asleep as soon as their heads touched their pillows.

The next morning, still groggy, their heads filled with facts and figures, buzzing with dates and explanations, they returned to their cubicles for more of the same. Sykes met them at the office door.

"Well, Manning!" he snapped. "You still insist you know more, *and* can teach better than I, eh?" He glowered at the cadet.

"I don't understand, sir," said Roger.

"You don't, eh?" screamed Sykes. "You came back here last night and changed that spool to *your* liking!"

"I did what?" asked Roger, incredulous. Only a few moments before he could hardly drag himself from his bunk. The idea of returning to the office before the required time was incredible. "I'm sorry, sir," he said, "but I only got out of bed a few minutes ago."

Ed Bush and several colonists suddenly appeared and Sykes whirled around to face them.

"Well! What do you want?" he demanded.

"Governor Vidac said we could pick up some of the spools that were ready," said Bush.

"Well, there isn't anything ready now," growled Sykes. "When I'm finished, I'll let Vidac know." He turned back to Roger.

"Well, Manning? What have you got to say for yourself?"

"I don't know what you're talking about, sir!" answered Roger.

"Cadet Manning," shouted Sykes, "do you remember our conversation last night on the subject of circular motion of captive planets around a sun star?"

"Yes, sir," said Roger.

"And do you recall your childish manner of explaining it?" sneered Sykes.

"Now just a minute, sir," said Roger, "I might be wrong—but—"

"Quiet!" The professor was screaming now. He turned around and inserted a study spool in a soundscriber. Turning it on he waited, glaring at Roger. The blond-haired cadet's voice came over the machine's loud-speaker clearly and precisely.

"… the idea of motion of one satellite around a mother planet, or planet around a sun star, can best be explained by the use of a rock tied to the end of a rope. If you swing the rope around your head, the rock will maintain a steady position, following a measured orbit. The planets, and their captive satellites, work on the same principle, with the gravity of the mother planet substituted for the rope, and the satellite for the rock…"

Sykes stopped the machine, turned, and glared at Roger. "Do you deny that that is your voice?"

Roger shook his head. "It's my voice all right but—"

"*And* do you deny that last night, before we left, it was decided that my explanation would be used?"

Roger's face reddened. "No, sir," he said tightly.

"Then how do you explain that *your* voice with *your* explanation is now on the master spool?" screamed Sykes.

"I—I—can't explain it, sir," said Roger, fighting to control his temper.

"I can!" snapped Sykes. "You sneaked back in here last night and substituted your original recording—the one I threw out!"

"But he couldn't have done that, Professor," interjected Tom. "He was asleep all night!"

"Were you awake all night, Corbett?" asked Sykes coldly.

"No, sir," replied Tom.

"Then you couldn't possibly know if he was sleeping or down here recording, could you?"

"No, sir," said Tom quietly.

"Cadet Manning, this is the most disgusting, disgraceful performance I've ever seen by a Space Cadet!"

"Then you're calling me a liar, sir," said Roger quietly, "when I deny that I did it."

"Can you explain it?" demanded Sykes.

Roger shook his head and remained silent.

"Get out!" screamed Sykes. "Vidac warned me about you! Go on! Get out! I won't work with a liar and a cheat!"

Before anyone could stop him, Roger leaped forward and stood in front of Sykes, grabbing him by the front of his uniform. "I've had enough of your insults and accusations!" he shouted. "If you weren't an old man, I'd drag you out of that Solar Guard uniform and beat your ears off! You're so crazy, you make everyone around you nuts! If you have any complaints about my work, put them in writing and give them to the governor!"

He turned and stalked out of the office.

"Roger, wait!" called Tom, rushing after his unit mate with Astro at his heels.

The colonists began to whisper to each other excitedly, but Ed Bush merely stood in the doorway and smiled!

CHAPTER 14

"That's right," sneered Winters. "Professor Sykes has disappeared and Vidac wants to talk to you!"

The burly spaceman stood in the open door of the cadets' quarters, legs spread apart, hands on the paralo-ray guns strapped to his side. Tom, Roger, and Astro eyed the man sleepily.

"Say that again," said Tom.

"I said Vidac wants to talk to you!" Winters shouted. "Now pile out of those bunks before I pull you out!"

Astro sat up and looked at Winters. His voice rumbled menacingly. "I'll give you five seconds to get out of here," he said quietly. "And if you don't, I'll ram those ray guns down your throat! One—two—three—"

Winters tried to match Astro's withering gaze and finally backed out the doorway. "Vidac wants to see you on the double, and that means, *double!*" He disappeared from view.

Tom and Roger were already out of their bunks and pulling on their uniforms.

"What do you think?" asked Roger, looking at Tom.

"I don't know, Roger," said Tom, "but I don't like the looks of it."

Astro jumped lightly to the floor. "I kinda wish Winters had tried something," he said with a smile. "I need a little early-morning exercise."

"Good thing he didn't," commented Roger dryly. "We're in enough trouble without you mauling one of Vidac's pet boys."

Tom listened halfheartedly to the chatter of his unit mates. He was thinking ahead to their meeting with Vidac. Since Roger's argument with the professor, they had continued their work, but under a severe strain. They had finally finished the series of study spools the night before, and Tom felt sure that Vidac had waited until the work was finished before he called them on the carpet. And then, too, there was the disappearance of Professor Sykes that Winters had mentioned. The young cadet felt there was trouble ahead.

A few moments later the three cadets presented themselves to Vidac in his office in the Administration Building.

The lieutenant governor was seated behind his desk and appeared to be very tired. Tom saluted smartly and stepped forward.

"*Polaris* unit reporting, sir," said Tom.

"Where is Professor Sykes?" demanded Vidac abruptly without even acknowledging the salute.

"Why, I—I don't know, sir," replied Tom.

"How about you, Manning? Astro?" asked Vidac, turning to the other cadets. "You have anything to say?"

"We only heard about it ten minutes ago, sir," volunteered Roger.

"I'll bet!" snapped Vidac. He got up and stepped around his desk to face the cadets. "You three were the last ones to be seen with the professor. What happened last night?"

"We finished the study spools and left him in the office, sir," said Tom. "Then we went for a swim in the pool and had a bite to eat before hitting the sack. That's all."

"Did anyone see you in the pool?" asked Vidac.

"I doubt it, sir. We didn't notice anyone around," said Astro. "It was pretty late."

"Did anyone see you at the mess hall when you went to get a bite?" pursued Vidac. "Surely there must be someone who can substantiate your story."

The three cadets looked at each other. "I guess not, sir," said Roger. "It was pretty late. After midnight."

Vidac eyed them curiously. "And you're sure you saw no one, and that no one saw you?"

"We can't be sure that no one saw us, sir," said Tom, "but I doubt it. As Roger said, it was after midnight."

Vidac whirled and sat down again. He pressed a small button on his desk and waited, silently considering the cadets, his eyes cool and level. The door opened and Governor Hardy walked in, followed by several men.

Tom suddenly realized that it was the first time they had seen the governor in nearly six weeks.

"Have you found Professor Sykes?" he demanded.

Vidac shook his head, then turned to the other men. Tom, with a sudden sinking feeling in the pit of his stomach, recognized them as the colonists who had been with Ed Bush when Roger had his last argument with the professor.

"Did you hear Cadet Manning threaten Professor Sykes?" asked Vidac.

"Yes, sir," replied one of the colonists.

"What did he say?" asked Vidac. "Repeat it for Governor Hardy."

The colonist quoted Roger's threat almost word for word and Tom noted grimly that the witness made the most of the fact that he and Astro had followed Roger out of the office after the argument. The implication was clear that they were part of the threat.

Vidac then turned to Ed Bush. "Bush, did you see the cadets last night?"

"Yes, sir," said Bush.

"Where?" demanded Vidac.

"Leaving the swimming pool with the professor."

"With the pro—!" exclaimed Tom.

"Shut up, Corbett!" barked Vidac, and then turned to Astro. "Did you say you went swimming *alone?*"

"We did!" exclaimed the Venusian. "We left the professor at the office. We did not see him again after that. He did not go swimming with us."

Vidac turned to Winters. "Did you see the cadets last night, Winters?"

"Yes, sir," replied the spaceman. "I had the graveyard watch and I was in the galley having a cup of coffee. I saw the cadets enter the galley just as I was leaving."

"Were they alone?" asked Vidac.

"No, sir," said Winters. "Professor Sykes was with them."

"That's a lie!" shouted Roger. "We were alone!"

Vidac merely looked at Roger and then turned back to Winters. "Then what happened?"

"Well," said Winters, "they got into an argument, the cadets and Sykes. It was about the movement of a captive planet, or something like that. Anyway, there was a scuffle, and all of a sudden the big cadet"—he indicated Astro—"picked up the professor and carried him out of the galley. The other two followed."

"Didn't the professor put up a fight?" asked Vidac.

"Oh, yes, sir," said Winters. "But he didn't have a chance against the three cadets."

"Why didn't you do something about it?" Governor Hardy suddenly broke in.

"I tried, sir," replied Winters calmly. "I ran after them, but they all piled into a converted jet boat and blasted out of there."

"Then what did you do?" asked Vidac.

"That's when I came to get you, sir," said Winters. "And we started looking for them." Winters paused. "Ah—pardon me, sir, but can I go now? I've been up all night and I'm pretty tired."

Vidac nodded and Winters left the room.

"You mean you've been up all night looking for the cadets?" asked Hardy. "Weren't they in their quarters?"

"No, sir," replied Vidac and turned to the cadets. "Well," he demanded, "what have you got to say for yourselves?"

The three cadets were silent.

"I must warn you," continued Vidac, "this is a serious matter and anything you say may be used against you. But on the other hand, if you speak freely and are willing to co-operate, I will do what I can to lessen your punishment."

Hardy suddenly stepped forward and slammed his fist on Vidac's desk. "None of that! There'll be no favors to criminals!" He turned to the cadets angrily.

"What did you do with the professor?" he demanded.

The cadets kept silent.

"Where did you take him?" he shouted.

Neither Tom, Roger, or Astro batted an eyelash. They kept their eyes front and their lips tight.

"I warn you, you'll spend the rest of your lives on a prison rock if you don't answer!"

Tom finally turned and looked straight at the governor. "May I speak, sir?"

"Only if you tell me what you did with Professor Sykes," replied Hardy angrily.

Bush pulled a paralo-ray gun from his belt and said, "All right, march!"

"You have not asked us, sir," said Tom coolly, "to tell our side of the story. You are accusing us of a crime and have already assumed that we are guilty. We are not."

"Do you deny it?" asked Hardy.

"We deny everything," said Tom flatly.

Hardy whirled around to face the colonists, Vidac, and Bush. "I want it clearly understood by everyone here that Space Cadets Tom Corbett, Roger Manning, and Astro, in the face of testimony given by eyewitnesses as to their argument with Professor Sykes, and their later abduction of the professor, do now conspire to withhold information which might help save the professor's life!" He turned to Vidac. "I want them arrested and held for investigation of their activities last night. Confine them to their quarters."

Vidac stood up and nodded his head to Bush. "Take them away. Keep a guard outside their quarters at all times."

"Yes, sir," said Bush. He pulled a paralo-ray gun from his belt and cocked it. "All right, march!"

The cadets of the *Polaris* unit spun on their heels in unison and marched from the room in perfect order.

* * * * *

"Attention! Attention! This is Captain Strong in rocket cruiser *Orion* calling central communications control, Roald! Come in, Roald! *Orion* to Roald! Come in!"

Aboard the space cruiser, Captain Steve Strong tried again and again to contact the star colony. For nearly five days, blasting through space at emergency speed, the Solar Guard captain had tried to contact the satellite, but to no avail. He snapped off the audioceiver and slumped back in his chair, a worried frown on his face.

When the second report from the *Polaris* unit had failed to come in, Strong had received permission from Commander Walters to blast off immediately for Roald. Walters agreed that it would be better for the captain to go alone, since the uranium discovery must be kept an absolute secret. Working by remote control relays from the control deck, Captain Strong handled the ship as easily as a jet boat and he kept the atomic reactors wide open.

He stared into the astrogation prism and sighted on the cold light of the sun star Wolf 359. Still unable to see the satellite circling the star, the captain's thoughts were on the past rather than the future. He still couldn't find any reasonable explanation for his suddenly having been taken off the Roald colony project and sent on the minor mission to Pluto. He had often thought about the man who had replaced him, Paul Vidac. Strong had heard the name

before and associated it with something unpleasant. He couldn't put his finger on what it was, since he had never met the man. Certainly there was nothing illegal about him. His record had been carefully checked, or he would never have been put in the position of trust he held now. Still there was a persistent notion in Strong's head that something was wrong.

The young captain turned and walked the deck of the huge empty ship, still deep in thought. He considered the fact that no reports had come through to the Academy from the colony at all. Not merely from the Space Cadets, but from the expedition itself. Only the sketchiest details had been audioed back during the trip and absolutely nothing since their scheduled arrival on the satellite. A sudden cold wave of fear gripped the space officer. He wondered if they had arrived safely!

He shook off the horrible thought. There must be a simple, logical explanation for it all. Establishing a star colony was no easy matter. Communications could be easily disrupted for any number of reasons.

Strong forced himself to forget it. It was still a long way to the satellite and there was no point in worrying about a fact until it was established to be a fact. He stretched out on a bunk and moments later was asleep, while the giant ship hurtled through the dark void toward its destination with a thousand electronic hands and eyes to guide it safely across the immense gulf of space.

CHAPTER 15

"Is he still out there?" Tom whispered.

"Yeah," growled Astro. "He hasn't moved."

"They're not taking any chances," said Roger. "When they change the guard, they take out their ray guns, just in case."

The three cadets were crowded around the door of their quarters with Astro down on his hands and knees, trying to see through a small crack. The big cadet straightened up and shook his head.

"I guess it's useless," he sighed. "Vidac is making sure we stay here."

"Well," said Roger disgustedly, "if we don't get out pretty soon, we won't —" He didn't finish the sentence. At that moment the door suddenly opened and Bush stepped in, two paralo-ray guns in his hands, cocked and ready to fire. Behind him was Hyram Logan and his daughter, Jane.

"You got ten minutes," said Bush, "and one funny move out of any of you and I'll blast you silly."

He closed the door and the click of the lock could be heard ominously.

"Mr. Logan!" exclaimed Tom. "How'd you manage to get in here?"

"Sonny," replied the Venusian farmer, "when you're dealing with crooks, you have to act like a crook!" He smiled and added, "I bought my way in here!"

"You mean that Vidac doesn't know you're here?" asked Astro.

"No," said Jane. "But we had to come. Vidac was going to—" She stopped and turned to her father. "Maybe you'd better tell them, Father."

"Well," said Logan slowly, "we just heard that Vidac is going to hold trial for you three boys right here on Roald."

"Trial!" exclaimed Astro.

"How'd you find that out?" asked Tom.

"They called all the colonists together and gave us pieces of paper with numbers on them," said Logan. "Then they put all the numbers into a bowl and picked twelve of them out again. The people that held those numbers were told that they were going to be the jury at your trial for the murder of Professor Sykes!"

"Murder?" exclaimed Roger.

"Blast my jets!" roared Astro. "They can't do that! We're under Solar Guard jurisdiction!"

"That's what I told them," snorted Logan. "You see, my number was pulled. I got up and opened my big mouth. I should have kept quiet and sat on the

jury, and then had my say where it would have meant something!"

"Then they took you off the jury?" asked Roger.

"Yep," said Logan. "Me and everyone else they thought might be prejudiced!"

"We came to tell you," said Jane, "because we wanted you to know what was going on and to see if there was anything we could do to help."

"We already tried to help in a lot of ways," said Logan. "We tried to get that space jerk outside to let you escape. I offered him—well, I offered him a lot, but he wouldn't do it."

"What are you going to do?" asked Jane, looking at Tom.

"I don't know, Jane," said Tom. "But we've certainly got to do something. If we ever stand trial here on Roald—"

Tom was interrupted by a loud banging on the door, followed by the click of the lock. Then the door was opened and Bush stepped inside.

"All right, Logan," said Bush. "Time's up!"

"But—but," complained Logan, "we've only been here two minutes!"

"Time's up, I said," sneered Bush. He raised his ray guns threateningly.

"Well, I guess we'd better go," said Logan. He turned and shook hands with each of the cadets. "Good luck, boys," he said with a smile. "Don't worry. We'll find someway of getting you out of this mess!"

"Thanks for telling us, sir," said Tom.

"Telling you what?" demanded Bush.

"That the world is round and that you're a square-headed space crawler," said Roger casually.

"A real big mouth, eh!" snarled Bush. "Why, I oughta—" He raised his guns again, but just at the moment Jane walked into the line of fire and stood there quietly. Bush stepped back. It was just enough to break the tension.

"Go on!" Bush growled. "Get out of here!"

"Don't get rough," said Logan, "or I might tell your boss you took a bribe to let us see the cadets!" With a parting wink at the boys, he followed Jane out.

Just as Bush started to close the door, Tom stepped forward. "How about something to eat," he demanded, "and some story tapes to pass away the time?"

"Yeah," said Roger, picking up Tom's cue, "and we don't want anything you'd select either. It might be too infantile! Send Jeff Marshall up here so we can get what we want!"

"I'll see about it," sneered Bush, slamming the door behind him.

"Are you thinking what I'm thinking?" Roger asked Tom.

"Yes. If there is anyone we can trust, it's Jeff. Let's hope that space jerk outside comes through!"

"Well," growled Astro, "if worse comes to worse, we can always jump him."

"Uh—uh," said Tom, shaking his head. "We wouldn't get past the first corridor. If we escape, and we will, we've got to have help from someone on

the outside!"

"But won't they be watching Jeff too?" asked Astro.

"Sure they will, but we've got to take that chance. If Vidac holds us for trial here on Roald, and we're convicted, the only place for a review of the case will be the Solar Council Chamber back on Earth."

"Well, what's wrong with that?" asked Astro.

"I'll tell you what's wrong with it," said Roger. "Before the case would come up for a review, we would have already spent at least two years on a prison rock!"

Meanwhile, in his office in the Administration Building, Lieutenant Governor Vidac listened with mounting apprehension to a report from the communications control officer of Roald.

"We just received a message from Captain Strong aboard the Solar Guard cruiser *Orion* requesting landing data here on Roald," the voice crackled impersonally over the teleceiver.

"How far out is he?" asked Vidac, suddenly growing pale.

"He should arrive within four hours."

"All right," said Vidac, regaining his composure. "Give him all the information he needs."

"What about the instrument disturbance?"

"Tell him everything."

"Yes, sir," replied the control officer, and the teleceiver screen went blank.

Vidac got up and began to pace the floor, pondering the reasons for Strong's sudden unannounced visit. He could be coming to check on the Space Cadets, he thought. Or it might be a routine check of the progress of the colony. Or he might know about the uranium. There had been an investigation of the soil on the satellite by the original expedition. But if they had known anything about it, reasoned Vidac, it would have been claimed for the Solar Alliance.

No, Vidac shook his head. He's not here to investigate the uranium, he's here either to check on the cadets or make a routine inspection of the colony. And if it's the former, he'd give Strong enough proof to bury the cadets on a prison rock for life.

Vidac turned to the teleceiver. "Get the spaceport," he ordered. "Tell the spaceport officer to prepare a welcoming party to blast off in ten minutes. They will meet Captain Strong of the Solar Guard in the cruiser *Orion*. Communications control will give them his position." He flipped off the teleceiver and settled back in his chair, smiling. Nothing in the world like a big fuss to throw a man off guard, he thought. And Steve Strong, as the first visitor from Earth since the colony was founded, would get a tremendous welcome!

* * * * *

"… Are you sure?" asked Tom, his face brightening. "You heard it yourself?"

Jeff Marshall smiled. "Roald is going crazy. They're preparing the biggest welcome for a spaceman since Jon Builker's return from his first trip in space!"

"Boy," said Astro, "what a break!" He slapped Roger on the back. "We'll be out of this can an hour after Captain Strong lands!"

"I knew you wanted me to help you try to escape," said Jeff. "I had already begun to make plans."

"No need for that now," said Tom. "If we tried to escape, we'd be doing the very thing Vidac would want us to do. He could say it was an admission of guilt."

Roger agreed with a nod of his head. "There's only one thing that bothers me now."

"What's that?" asked Astro.

"Professor Sykes," he said. "We've been so worried about our own necks, we've forgotten about him."

"Well," said Astro, "what about him?"

"What really happened to him," mused Roger, "and why?"

"I wish I knew," said Tom. "But I'll bet Vidac knows."

"Sure," agreed Roger. "But I still say why and what?"

The blond-haired cadet looked around at the faces of his friends. There was no reply to his question.

* * * * *

Every citizen of Roald, man, woman, and child, was at the spaceport to watch the giant cruiser *Orion* settle slowly to the ground. Vidac watched it through squinting eyes. He had secretly hoped that the uranium disturbances would cause the ship to crash, thus eliminating his difficulties before they could begin, but he couldn't help admiring the way the big cruiser was handled. When the hatch opened and Captain Strong stepped out, resplendent in his black-and-gold uniform, there was a spontaneous roar of welcome from the ground. Vidac stepped forward immediately to greet the Solar Guard officer.

"I'm Paul Vidac, Captain Strong. Lieutenant governor of Roald. Governor Hardy is very busy and asked me to welcome you and to convey his apologies for not greeting you personally."

"Thank you," said Strong and shook hands with Vidac. He turned around

and looked over the crowd. "But I seem to be missing several other welcomers."

"Ah, I presume you mean the Space Cadets," stammered Vidac.

Strong looked at the lieutenant governor. "Yes, I mean the Space Cadets. Where are they?"

Vidac tried to meet Strong's level gaze, but his eyes fell away. "They are under arrest!" he said finally.

"Arrest!" cried Strong. "For what?"

"The murder of Professor Sykes."

"Murder? Professor Sykes?" asked Strong. "Explain yourself!"

"This is hardly the place to discuss it. Shall we go to my office?" asked Vidac.

"Where is the professor's body?" asked Strong.

"It hasn't been found yet," replied Vidac uneasily.

"Then how can the cadets be charged with murder if you can't produce a body?" demanded Strong.

Vidac paused a moment. He was thrown off guard by Strong's shrewd observation. "They are also being held for abduction of the professor," said Vidac. "We have eyewitnesses."

"Take me to them," said Strong.

"I'm afraid that will be impossible at the moment," said Vidac. "The colonists are expecting a little show for their enthusiastic welcome."

"Take me to the cadets," Strong demanded. "And that means immediately!"

Vidac wavered under the Solar Guard captain's withering gaze. He nodded and turned away.

As Strong pushed through the crowd of welcoming colonists, someone tugged at his sleeve and whispered into his ear.

"Don't believe all you hear!" Strong turned to see the face of Hyram Logan. Before he could reply, Logan disappeared into the crowd.

"Well, Captain Strong? Are you coming?" asked Vidac.

Strong turned and followed him through the crowd. He could feel danger on this satellite. He could feel it and he could read it in the faces of the people around him.

CHAPTER 16

"I'll leave you here," said Vidac to Captain Strong as the two spacemen stood in front of the Administration Building. "Take the slidestairs up to the seventh floor. First corridor to the left. There will be a guard outside their door. Give him this note and there won't be any trouble."

Strong looked at the lieutenant governor coolly. "There better not be," he said.

"That's a strange attitude to take, Captain," said Vidac.

"Vidac," said Strong coldly, "I want you to know right now that I don't like this setup. There are many things cadets might be, but they are not kidnappers or murderers!"

"I intend to prove otherwise!" asserted Vidac.

"I figured you would," said Strong, "but you still have to produce Professor Sykes's body."

"Don't worry, Captain." Vidac smiled. "My men are searching for it now. We'll find it."

"When you do, Vidac," said Strong grimly, "and he happens to be alive, make sure he stays that way, eh?" The Solar Guard captain wheeled and entered the Administration Building before Vidac could answer.

Inside, he found the slidestairs and rode up to the seventh level. Taking the first corridor to the left, he rounded a corner to find Ed Bush standing in front of the door to the cadets' quarters. As he approached, Bush took out his paralo-ray gun and held it on Strong.

"That's far enough, mister," said Bush.

"Do you realize what you're doing?" demanded Strong.

"Never mind what I'm doing," snapped Bush. "Who are you and what do you want?"

"You'd better get spacewise, mister! It's against the law to hold a weapon on an officer of the Solar Guard! I'm Captain Strong and I want to see the cadets!"

"No one gets inside without a pass from Governor Vidac," Bush answered surlily.

Strong pulled out the note and handed it over brusquely. Bush glanced at it and handed it back.

"O.K.," he said. "You got ten minutes." He unlocked the door and stepped aside.

Strong was furious at this treatment. But he held his temper in check,

realizing he had to talk to the cadets first and find out what had happened. He would deal with Bush later. He stepped past Bush and opened the door.

"*Polaris* unit—stand to!" he yelled.

Seated around the table, the three cadets stared at their captain in disbelief, then instinctively rose and snapped to attention. Their backs were straight and their eyes forward, but it was impossible for them to keep smiles off their faces. Suppressing his own elation, Strong managed to stride in front of them in mock inspection, but then could no longer hold back an answering smile.

"Unit—stand easy!"

Like three happy puppies the cadets swarmed over their skipper, pounding him on the back, grabbing his hands, and mauling him until he had to cry out for peace.

"Take it easy," he cried. "Relax, will you! You'll tear me apart!"

"You're the happiest sight I've seen in weeks, sir!" shouted Tom.

"Yeah," drawled Roger, grinning from ear to ear. "I couldn't be happier if you had brought along a ship full of space dolls!"

"When did you get here, sir?" asked Astro. "Why didn't you let us know?"

The questions tumbled out of the boys' mouths thick and fast, and Strong let them chatter until their initial burst of elation had worn itself out. Then, after quickly bringing them up to date on all news of the Academy, and news of Earth, he pulled up a chair and faced them solemnly. The three cadets braced themselves to tell him about their experiences since leaving Atom City.

"There's a lot to tell, sir," began Tom. "But we're only going to give you the facts as we know them, sir. And then let you decide."

Then starting from the beginning, when they were first relieved of their stations on the *Polaris* on the way out to the satellite, the three cadets related their experiences with Vidac, Hardy, and Professor Sykes. They ended with a detailed account of their being held for the disappearance of the professor.

"And you say that the colonists were forced to pay for their food on the trip out?" asked Strong incredulously.

"Yes, sir," said Tom. "And later, after the ships crashed, there was a shortage of farm tools and equipment, which meant that the colonists would have to farm with chemicals. Vidac made them sign over part of their future profits and mortgage their land holdings to get the chemicals."

"And four hundred ships crashed in landing? Hasn't anybody figured out why yet?" Strong asked.

Roger shook his head. "The instruments just went out, sir," he said. "I never saw anything like it, and when the professor wanted to go down in a jet boat first to investigate, Vidac insisted on taking the *Polaris* down, anyway. He brought her in by the seat of his pants…"

"Only because Tom took over when he got cold feet," chimed in Astro.

"Yeah," agreed Roger. "But the others couldn't do it. They just splashed in."

"And there hasn't been any explanation of why the instruments went out?"

"I haven't heard any, sir," said Astro. "Professor Sykes started out right after we landed to investigate the satellite, but I never heard anything more about it. When I asked him one day if he had found anything, he told me to mind my own business."

"And now you're accused of abducting and murdering the professor," mused Strong.

"That's it, sir," said Tom. "As I said, we didn't want to give you anything but the facts as we know them. There are a lot of incidents that would show Vidac is trying to pull something funny, but nothing that could be proved."

Strong nodded. "Well, it certainly looks as though Vidac is—"

Strong was suddenly interrupted by Bush who stepped into the room arrogantly, paralo-ray gun in hand.

"Time's up!" he yelled, waving the gun at Strong.

"Hasn't anybody figured out why four hundred ships crashed in landing?" Strong asked.

"I've warned you about holding a weapon on a Solar Guard officer," snapped Strong, rising to face the man. "Either put that thing away or use it."

Bush glanced at the smiling cadets and turned back to Strong.

"Your time is up," he growled. "Get out!"

"I said," replied Strong coldly, "either use that thing or put it away!"

Bush glared at Strong, but the gun in his hand began to waver. "I said your time's up!" he repeated, but there was considerably less conviction in his voice.

Suddenly Strong stepped forward and grabbed the man's wrist, forcing the gun down. As Bush started to struggle, Strong tightened his grip, and the victim's face grew white with pain. Slowly Bush's fingers opened and the paralo-ray weapon dropped to the floor.

"Now pick it up and get out of here!" barked Strong, releasing Bush's arm. "I'm going to stay with the cadets as long as I want. And if you ever pull a gun on me again, I'll make you eat it!"

He turned his back to Bush and faced the cadets again. Bush dove for the gun, raised it threateningly, then suddenly walked out of the room, slamming the door as hard as he could. The cadets sighed in relief and Strong smiled.

"Let's see what Vidac makes of that," he said. "Now, let's get down to business. There's only one thing I can do right now."

"Yes, sir?" asked Tom, waiting attentively.

"I'm going to talk with a few of the colonists and see what else I can pick up. Meantime, you just take it easy. And if that space jerk outside gives you any trouble"—Strong paused and smiled—"show him a few of your wrestling tricks, Astro."

The big Venusian nodded enthusiastically. "My pleasure, Captain."

Strong stood up and shook hands with each of them. "From what you've told me," he said, "I think I should see Hyram Logan first."

"Yes, sir," said Tom. "He's sort of the spokesman for the rest of the colonists. He can give you a lot of information."

"Good!" said Strong. "Where will I find him?"

Tom gave directions and the captain left the three cadets with a smile. "Don't worry. We'll see this through. In a short while you'll be on duty again."

A half-hour later, in one of the converted jet boats, Steve Strong sped along the smooth broad streets and flat level highways of the colony. He was heading for the Logan farm and the long drive through the Roald countryside would ordinarily have been interesting and enjoyable. But the Solar Guard captain was preoccupied with his own thoughts. A name kept repeating itself over and over in his mind. Hardy—Hardy—Hardy. Why hadn't the governor done something about Vidac? Where was he when the colonists were forced to pay for their food? Why hadn't he checked on the cadets' statement that their report hadn't been sent out? Strong made a mental note to check the logbook of the *Polaris* when he returned.

Suddenly, ahead of him, he saw a young boy walking along the highway. He slowed down and stopped beside him.

"Hello, Sonny," called Strong with a smile. "Can you tell me where I can

find the Logan farm?"

The boy stared at Strong, eyes wide. "Sure thing, Mister, er—I mean—Captain. I'm Billy Logan."

"Well, hop in, Billy!" said Strong. "I'll give you a lift!"

"Thanks," replied the boy and jumped in beside Strong. "It's about a mile up the road, then we turn off." He couldn't keep his eyes off Strong's black-and-gold uniform. "I'm going to be a Space Cadet when I get old enough," he gulped breathlessly.

"You are?" asked Strong. "That's fine. You have to study very hard."

"I know," said Billy, "I'm starting already! Tom, Roger, and Astro lent me books and study spools to work on. Why, I bet I know every single Academy regulation right now!"

Strong laughed. "I wouldn't be surprised!"

"We turn off here," said Billy, indicating a narrow road branching off the main highway. "We live about three miles down. Out in the wilderness. By the stars, It's so lonely out here sometimes, I wish I was back on Venus!"

"If you want to be a spaceman," said Strong, "you have to learn not to be lonely. Why, I just made a trip out from Atom City all by myself. Didn't bother me a bit!"

"You did?" cried Billy. "Gosh!"

He was so awed by Strong's solo trip out to the satellite that he remained silent the rest of the trip.

A few moments later Strong pulled up at a small crystal structure, just off the road. He had no sooner stopped, than Billy was out of the car yelling to his father and sister at the top of his voice that they had a visitor.

Hyram Logan came from around the back of the house to greet Strong, and Jane, who had been busy in the kitchen preparing supper, came to meet the young officer, wiping her hands on her apron.

"Mighty glad to see the Solar Guard remembered we're out here," said Logan as he led Strong into the house. Seated comfortably in the living room, Strong brought up the purpose of his visit right away.

"I've just finished talking to the cadets, Mr. Logan, and they've been telling me some strange stories about Vidac and Governor Hardy. I'd like to hear what you have to say about it."

"I can say everything in one sentence, Captain," snorted Logan. "Those space crawlers are trying to take everything we have away from us!"

And for three hours Strong listened as the Venusian farmer talked. When the farmer had finished, Strong asked only one question.

"Why didn't Governor Hardy do something?"

"I can't explain that," said Logan. "When we were forced to pay for our food on the way out, we signed a petition and sent it to the governor. But we never heard anything about it. Of course Vidac could have intercepted it."

"Well, thank you, Mr. Logan," said Strong, getting up.

"Won't you stay for supper, Captain?" asked Jane.

"Yeah, please stay, sir," pleaded Billy. "I'd like to hear about your trip out here all by yourself."

Strong laughed. "Some other time, Billy." He ruffled the lad's hair. "I have to get back and see if the cadets are all right."

A few moments later Strong was speeding along the superhighway back toward the city. There was only one thing on his mind—to get the cadets out of the trap they were in. But it would be a hard job. Vidac had witnesses against them. He mentally probed the situation further. Why would Vidac abduct Professor Sykes? Surely not to frame the cadets. He must have wanted to be rid of Sykes too. Sykes must have known something. But what? Strong suddenly thought of the professor's investigation of the landing disturbance. It could only have been the result of radioactivity in a large mass. So the professor must have discovered a large deposit of uranium. Strong's mind raced on. Sykes would have taken the report to Vidac or Hardy, or both, and —

Strong forced himself to stop thinking. He was violating one of the cardinal laws of the Solar Alliance. He was presuming that Vidac or Hardy was guilty —and he didn't have an atom's worth of proof. There was only one way to get the proof. The cadets would have to escape to find it.

* * * * *

Strong sidled around the corner of the corridor. Down at the end of the hall, still standing in front of the cadet's door, Bush leaned against the wall, idly picking his teeth. Strong realized that he would have to sneak up behind the guard. He couldn't afford to be seen. He had to wait until Bush turned around.

He waited and watched while the man shifted from one foot to the other. And after what seemed like hours, Bush shifted his position and turned his back on the Solar Guard officer. Strong quickly darted around the corner and ran lightly down the hall. If Bush turned around now, Strong would be frozen stiff by the paralo-ray. With ten feet to go, the captain lunged at Bush in a diving tackle, sending the man sprawling face forward. In a flash he was on top of him, and with a quick snapping blow on the back of the neck he knocked the man cold.

Strong snatched up the paralo-ray gun, then unlocked the door and threw it open. The cadets were sprawled on their bunks, listening to a story spool.

"Captain Strong!" yelled Tom.

"Quiet!" ordered Strong. "You've got three minutes. You'll find a jet car at the side entrance of the building. I can't explain now, but get out of here!"

"But what do you want us to do?" asked Tom. The three cadets were already grabbing their clothes and other items they would need.

"The only way you're going to prove that you didn't abduct or murder the professor is to find him," said Strong. "And pray to your stars that he's still alive. If he isn't, it'll be up to you to find out who killed him!"

"But what about you, sir?" asked Roger. "Won't Vidac know that you helped us?"

"Undoubtedly," said Strong. "After what I said to the guard today, Vidac will arrange for a hundred witnesses to prove that I helped you escape. You'll have to bring back the professor, not only to save your own necks, but my neck as well."

The three cadets nodded.

"All right," said Strong. "Spaceman's luck, and remember, you'll be wanted criminals when you walk out of that door. So act like criminals. Fight them the same way they will fight you. This is not a space maneuver. It's your lives against theirs!"

Without another word, the three cadets slipped out of the room and disappeared down the corridor.

Strong took a last look at Bush lying unconscious on the floor and hurried silently back to the front of the building. His heart was racing with excitement. The ball had begun to roll.

CHAPTER 17

"Where do we cut off?" asked Vidac. He sat beside Winters in the converted jet boat, speeding down the smooth highway that Strong had passed over only a few minutes before.

"It's right along here, somewhere," said Winters.

"Better slow down," said Vidac. "We don't want to miss it. We haven't much time. If Strong starts nosing around he might discover something."

"Lucky for us we found out so quickly where the uranium is," replied Winters.

"It won't mean a thing unless we can get Logan to sign over his land holdings."

Winters braked the jet car suddenly, throwing Vidac up against the windshield. "What are you doing?" snapped Vidac.

"Sorry, boss," replied Winters. "There's the road leading to the Logan place up ahead."

Winters slowed for the turn off the main highway and then accelerated to full power again on the side road.

"How are you going to get old Logan to sign the release?" asked Winters. "Suppose he knows his land is worth about ten billion credits?"

"How could he know?" asked Vidac. "The only ones that know are me, you, Bush, and Sykes."

Winters nodded. "Then as soon as we get Logan to sign over the land, we take care of Sykes, bring back his body as proof against the cadets, and everything's set, eh?"

"Something like that," said Vidac. "We still have to watch our step with Strong, though," said Vidac.

The two men were silent as the jet car raced down the side road. A moment later they could see the lights in the small crystal farmhouse.

"Cut your lights," said Vidac. "We don't want to scare them."

"O.K.," replied Winters. He switched off the powerful beams and slowed the car to a crawl. They rolled past the outer farm buildings and came to a stop in front of the main house.

"Say, boss," said Winters suddenly. "Look! Tracks in the road! Car tracks! Somebody's been out here! Logan doesn't have a car!"

"So what?" snarled Vidac. "Get hold of yourself. It could have been anyone."

A powerful light from the farmhouse suddenly flooded them and Logan's voice cracked in the night air.

"Who's there?" called the farmer.

"Good evening, Mr. Logan," said Vidac, climbing out of the car. "This is the governor."

"Vidac!" said Logan, startled. "What do you want?"

"This is what we want!" snarled Winters, whipping his ray gun into view. "Get back inside!"

"Wha—?" gasped Logan. "What's the meaning of this?"

"You'd better do as the man says, Mr. Logan," said Vidac.

Jane suddenly appeared behind Logan, her hands still soapy from washing the supper dishes. "Who is it, Father?" she asked, and then seeing Vidac and Winters she stepped back inside the house.

"Nothing to get alarmed about," said Vidac, pushing Logan into the house before him. "We just want to have a little talk." He smiled. "Business talk."

"Isn't it too bad, Winters," said Vidac, "that we just missed supper?"

"What do you want?" demanded Logan belligerently. He stepped in front of Jane protectively.

"Now don't get excited Mr. Logan," said Vidac, his voice smooth. "We just want you to sign a little paper, that's all."

"What kind of paper?" asked Logan.

"Say," said Winters suddenly, "ain't you got a kid?"

"If you mean my son, Billy," said Logan, "he's asleep."

"I'd better check," said Winters, starting forward.

"Never mind him," said Vidac. "We haven't got all night and there's nothing a kid could do."

He pulled out a paper from his pocket and unfolded it, keeping his eyes on Logan. "Mr. Logan, we're going to foreclose your mortgage."

"Foreclose!" gasped Logan. "But—but I haven't even had time to gather in my first crop!"

"We've taken a look at your fields and we don't think you're doing a good job," said Vidac. "In this mortgage you signed there's a clause that states I can foreclose any time I want."

"But how can you judge a crop by just looking at the fields?" asked Jane.

"Oh, we have ways, Miss Logan." Vidac smiled. He walked to a near-by table, and pushing a stack of study spools to the floor, spread the paper in front of him. He looked up at Logan and indicated the paper. "Do you have a pen, or would you like to use mine?"

"I'm not signing anything until I read it," snapped Logan.

Vidac smiled and pushed the paper across the table. Logan came forward and picked it up. He scanned it hurriedly and then glared at Vidac.

"You can't do this!" he snapped. "I won't sign!"

Winters suddenly leaped across the room and grabbed Jane by the wrist, jamming his gun in her back.

Vidac leered at the farmer. "Have you ever been frozen by a ray gun, Mr. Logan?"

Logan shook his head.

"Let me tell you about it," said Vidac coolly. "The effects are very simple, but very powerful. You are paralyzed! You can still see, hear, think, and breathe. Your heart continues to beat, but otherwise, you are absolutely powerless. The aftereffects are even worse. The person who has been frozen comes out completely whole, but"—Vidac suddenly shuddered—"believe me, Mr. Logan, you feel like ten thousand bells were vibrating in your brain at one time. It isn't pleasant!"

"Why—why—are you telling me this?" asked Logan.

"You wouldn't want to see your daughter undergo such an experience, would you?"

"If—if I sign the paper," stammered Logan, "will you leave Jane alone?"

"I give you my word as a spaceman that nothing will happen to her. In fact, when you sign, you will continue to work the farm as before. Only you'll be working for me. I wouldn't want to deprive you of your livelihood."

Suddenly the door to the bedroom opened and young Billy burst into the room, clad only in his pajamas.

"Don't sign, Pa!" he screamed. "Wait and tell Captain Strong first!"

"Strong!" exclaimed Vidac. "Has he been here?"

Logan nodded his head, and taking Vidac's pen, started to sign the paper.

"No—no, don't, Pa!" cried Billy. "Don't—!"

Logan paid no attention and finished signing. A look of deep hurt filled the boy's eyes. "A—a spaceman—" he stammered, "a Solar Guardsman would never have given up!" Crying, he turned away and buried his head in his sister's arms. Logan silently gave Vidac the paper and turned away.

"Thank you, Mr. Logan," said Vidac with a smile. "That's all. Good night!" He turned and motioned for Winters to follow him. "Come on. Let's get back to the city!"

Billy, Jane, and their father silently watched the two men leave the house. Even as the roar of the super-charged jet car faded away in the distance, they still stood in silence.

Finally Logan turned to his son and daughter. "There ain't but one thing left to do. Go back to Venus as soon as we can get passage. I'm sorry, Billy, but —"

"That's all right, Pa," said Billy. "I guess I would have done the same thing —for Jane."

* * * * *

"Can't you get any more out of this jalopy?" asked Roger.

Astro shook his head. "I've got her wide open now!"

The big cadet sat hunched over the steering wheel of the small jet car

Strong had used a short time before, racing along the same smooth highway toward the spaceport on the other side of the hills. Tom was wedged in between Astro and Roger, his eyes straight ahead on the road.

"Where do we start first?" asked Roger.

"We better take it easy, Astro," said Tom. "Turn off the lights."

"We've got to get a ship. The *Polaris*, if possible. We can't begin to look for

the professor without one. As soon as Vidac learns that we've escaped, the whole satellite will be crawling with colonists and his boys, looking for us."

"Colonists!" cried Astro. "Why would they want to help him?"

"Vidac will think of something to convince them that we're dangerous criminals," said Roger grimly. "Tom's right. We've got to get the *Polaris*."

They were just leaving the crystal city behind them and winding through the hill section surrounding the flat plain. Astro's handling of the jet car was perfect as he took the curves in the road at full throttle. They still had a long way to go to reach the spaceport that had been built on the other side of the hills.

"You sure did a fine job of conversion on these jet boats," said Tom to Astro. "This baby feels as though she was going to take off."

"I wish it was," said Roger, looking up at the hills on either side of them. "It would be a lot easier to blast over these things than go through them."

The car sped up to the last summit that separated them from the spaceport.

"We'd better take it easy," said Tom. "Turn off the lights, Astro. We'll ditch this jet car about a mile from the spaceport and walk the rest of the way."

"Right," said Astro. He gunned the little vehicle for the last burst of speed necessary to take them over the top. The jet car shuddered under the extra power and a moment later the spaceport lay spread before them. Below them, in a five-mile circle, they could see the few remaining ships of the great fleet. The *Polaris* was easily recognized, and fortunately, was on the nearer side of the giant landing area.

"There's home," said Roger.

"Yes," agreed Tom. "And she sure looks good to me—"

The curly-haired cadet suddenly stopped as powerful headlights loomed on the highway ahead.

"That's Vidac's jet car," said Roger. "I recognize the lights. We've got to get out of here!"

Astro braked the small vehicle and it screamed to a stop. The three cadets hastily piled out and raced for the darkness of the surrounding hills.

No sooner had they disappeared than Vidac's jet car slammed to a stop beside the deserted jet car. In a flash Vidac was out of the seat and examining the vehicle. He turned to Winters, holding a small disk in his hand. "Tom Corbett's identification tag!" said Vidac. "The cadets have escaped! Organize a search! The orders are *shoot to kill!*"

CHAPTER 18

Governor Hardy was not to be found. Strong made inquiries around the Administration Building and among the colonists but he could find no trace of the governor. The only thing Strong learned was that Hardy had spent the last two weeks wandering around in the outlying wilderness areas of the satellite, alone, apparently searching for something. But the Solar Guard captain realized that it would be a waste of time to race around the planet searching aimlessly for the governor. He became more and more convinced that Hardy was hiding. His suspicions were increased when he found Vidac waiting for him in the deserted lobby of the Administration Building with a warrant for his arrest. The warrant had been signed by Hardy.

"Before I place myself in your hands," said Strong, "I want to see the governor."

"Considering that you committed a crime by aiding the escape of the Space Cadets," said Vidac, "that will not be possible."

"I demand to see the governor!"

Vidac turned to Winters who was standing by his side. "Take him," he ordered.

Winters whipped out his paralo-ray gun, and before he could move, a paralyzing charge froze the Solar Guard captain in his tracks.

"Take him to my quarters," said Vidac. "And stay with him. I'm going to organize a searching party and find those cadets."

"Right," said Winters.

As Vidac walked away, Winters picked up the paralyzed body of the Solar Guard officer and carried him awkwardly to the slidestairs. Though under the effects of the paralo ray, Strong's mind still continued to function. Even as Winters carried him across his shoulder like a stick of wood, Strong was planning his escape. He figured Winters would release him from the ray charge once inside Vidac's quarters and he was ready to go into action.

Winters opened the panel to Vidac's spacious office and carried Strong through to the other side where the lieutenant governor's sleeping quarters were located. He put the helpless man down on the bed, and stepping back to the panel, flipped on the neutralizer of the ray gun. He fired, releasing Strong from the frozen suspension.

Strong felt the jolts of the neutralizer charge but he clamped his teeth together to keep them from chattering and stayed rigid. He had to remain still, as if the neutralizer charge had not released him, in order to make his plan

work. Winters waited for Strong to move, and when he didn't, stepped closer, prodding him with the barrel of the gun. In a flash Strong leaped up and grabbed the ray gun. Twisting it out of the surprised man's hand, he brought the weapon down on the man's neck. Winters dropped to the floor like a stone.

Then Strong scrambled to his feet and cold-bloodedly turned the ray on Winters, blasting him into immobility. He turned grimly toward the panel and raced to the slidestairs. If Vidac had a warrant for his arrest, signed by Hardy, then Vidac knew where Hardy was. If he could follow the lieutenant governor, he might possibly learn just where the mystery of Roald began and who was after what and why.

* * * * *

After leaving the jet car and climbing into the desolate hills surrounding Roald City, Tom, Roger, and Astro watched from the safety of a ridge the quick search Vidac and Winters had made to find them. When the two men had returned to the superhighway and blasted back toward the city, taking both jet cars, the three boys made their way slowly through the night down the opposite side of the hills and headed for the Logan farm. When the sun star rose over the satellite's horizon, the three boys were stretched out flat on their stomachs in a field, watching the morning activity of Jane, Billy, and Hyram Logan about the farm.

"Think we can get them to help us?" asked Roger.

"It's the only thing we can do," said Astro. "If they won't, we might as well give ourselves up. I'm so hungry I could eat a whole cow!"

"What kind of a cow?" asked Roger. "There aren't any on Roald, remember? We drink synthetic milk."

"I could even eat a synthetic cow!" was Astro's grim rejoinder.

"Come on, you two," said Tom. "We might as well try it. You think they're alone?"

"They don't act as though there's anyone around but themselves," said Roger. "But I don't know—"

"I thought I saw a curtain move at that window on the left a while ago," commented Astro, "and all three of them were outside."

"Probably a breeze," said Tom. "You cut over to the right, Astro. I'll go straight in, and you take the left, Roger. That way, if anything goes wrong, one or two of us might get away."

"All set?" asked Roger.

"Ready," nodded Astro.

"Let's go."

The three boys separated, and a moment later, when his unit mates were in

position, Tom stood up and walked across the clearing, exposing himself to the house. Out of the corner of his eye he saw Astro and Roger moving in on the left and right. Billy was working in the front yard with his father, mixing chemicals. Jane was standing by the doorway of the house digging in a bed of flowers. Tom continued to walk right through the front yard and was only ten feet away from Billy before the youngster looked up.

"Tom!"

Logan turned and saw the cadet walking toward him. He stared. After a night scrambling around the hills, Tom looked as if he had been shoveling coal.

"Hello, Mr. Logan," said Tom, looking around. "Are you alone?"

"Yes," Logan replied. "Where are the other boys?"

"They're coming," said Tom, waving his arm toward his friends.

Astro and Roger rose from their places of concealment and darted forward.

"Get in the house, quick!" ordered Logan. "Vidac and his flunky Winters were out here last night and—" He didn't finish. The unmistakable roar of a jet car approaching rapidly was heard. The cadets raced for the house, following Jane into the farmer's bedroom, where they hid in a closet. Jane returned to the front of the house and stood with her father and Billy to watch the cloud of dust kicked up by the jet car as it raced along the dirt road toward them.

"If it's them space crawlers again," said Logan to his children, "let me do the talking."

"Who else could it be?" asked Jane.

"I don't know," said Logan. "But remember, if it is Vidac, we might be the only thing between those three boys inside and a long term on a prison rock!"

The jet car entered the cleared area in front of the house and stopped in a cloud of dust. Logan, grim-faced, followed by Billy and Jane walked across the yard to the car and waited. The door opened and a man in the uniform of an enlisted spaceman climbed out.

"Jeff Marshall!" yelled Billy.

"Hello, Mr. Logan, Jane, Billy." Jeff noticed the sudden look of relief that passed over Logan's face. "Is there something wrong?"

"Not a thing, Jeff," said Logan. "Come on in the house. We've got a surprise for you."

"Thank you, sir," said Jeff. "But I'm afraid I'm not in the mood for surprises. The cadets have escaped and the whole countryside is crawling with Vidac's men looking for them. There's a reward of a thousand credits for their capture—dead or alive!"

Logan patted the sergeant on the shoulder. "Stop worrying, Jeff. The cadets are in the house."

"What?"

Logan nodded his head. "Come on inside." He paused and spoke to his son. "Billy, you scoot down the road to the bend and watch the main highway. If anyone turns off into our road, you let me know right away!"

"Yes, sir," replied Billy and dashed down the road. Jeff followed Jane and Logan into the house, and a few moments later, after exchanging enthusiastic greetings, he and the cadets waited hungrily for Jane to prepare breakfast.

Finishing the hearty meal in short order and sipping hot bracing coffee, the three cadets took turns in telling Jeff of their conversations with Strong, their escape, and their near encounter with Vidac on the highway the night before.

"What made you come out here, Jeff?" Tom finally asked.

"Well, when I discovered that you had escaped, I knew you'd head for one of two places, the spaceport or here. I hung around the spaceport all night waiting for you to show up, and when you didn't, I came here."

"That's dangerous," said Logan. "If you figured it that way, Vidac can do the same thing. I wouldn't want him to find you boys here. Not that I don't want to help you, but Vidac might try to connect me with you and the missing professor. I couldn't take a risk like that with Billy and Jane. We're in enough trouble."

The farmer then told them how Vidac had forced him to sign a release on his land while threatening Jane with a ray gun.

"We have to get to the bottom of this mess," said Tom. "The only trouble is we don't know what he's after or why he's trying to frame us."

"Well," said Roger, glancing at his watch, "whatever we decide, we'd better do it quickly. It's almost noon."

"Noon!" exclaimed Logan. "Why it can't be more than nine at the most!" He pulled out a large gold watch from his coverall pocket. "Sure—it's a quarter to nine!"

Jeff looked at his watch. "Same here!" He smiled. "You must be wrong, Roger."

"You probably forgot to wind it," said Tom. He glanced casually at his own watch and suddenly exclaimed. "Say, my watch has three-thirty!"

"And mine says four twenty-two!" cried Astro.

Roger and Tom looked at each other, eyes widening.

"You don't think—?" began Tom, hardly daring to breathe.

"Yes, I do!" said Roger. "Remember what happened to the instruments?"

"Uranium!" exclaimed Astro.

The word echoed in the kitchen like the blast of a bomb. The boys looked at each other, too startled to explain to Logan and Jane, who, though they were listening intently, were unable to fathom the boys' reasoning.

"Where were you last night?" asked Jeff quickly.

Roger described as nearly as he could remember the exact route that they had traveled in making their way to the Logan farm.

"Hey, I think I've got the answer, fellows!" Tom suddenly exclaimed. "If Vidac came out here last night and took over Mr. Logan's farm, and we're falsely accused of getting rid of the professor, and the professor is missing, there must be something to tie it all together. Vidac wouldn't do the things he's done, unless he's got a rocket-blasting good reason!"

Roger quickly added, "And he wouldn't try to buck Captain Strong unless he was playing for high stakes!"

"Right," said Tom. "The only thing that could have caused our watches to go haywire, like the ships instruments, would be uranium. Lots of uranium. And uranium is the only thing valuable enough to make Vidac take such long chances."

"But how can you tell it's uranium?" asked Logan.

"Our watches are not ordinary timepieces, sir," explained Tom. "They are specially constructed for use in space travel. Each watch is electrically controlled and highly sensitive."

"Electric?" repeated Logan in amazement. "Electric wrist watches? That small thing?"

Tom smiled. "Each is charged by a miniature power pack, sir."

"The uranium deposits out in the hills affected these watches," continued Astro, "the same way they affected the electronic instruments on the spaceships coming in to Roald."

"I'll tell you what," said Jeff. "I'll make a check."

"Wait a minute," said Logan. "I just remembered something—"

"What, sir?" asked Tom.

"Professor Sykes! He was out here poking around in my fields and up in the hills from dawn till dark. Said he was making some soil tests. I yelled at him for stepping all over some baby fruit trees."

"That's it, then," said Roger grimly. "This area is jumping with uranium and Vidac now has title to the land!"

"Don't be so sure," said Tom. "We still need proof."

"Isn't using force to take the land away proof enough?" snapped Logan.

"Wait a minute!" said Jeff. "If you want proof, I know where to get it."

"Where?" asked Tom.

"The professor's work journal!"

"Think he'd record it in there?" asked Tom. "It's pretty valuable information."

"Yes," said Jeff. "He even logs the amount of coffee he drinks in the morning! He puts down everything!"

"You think the journal is still in the lab?" asked Tom.

"Sure it is. I saw it before I left."

"Then we've got Vidac right where we want him!" exclaimed Roger.

"No, we haven't," said Tom. "We haven't got the professor to prove it! Vidac's still the boss on this hunk of space rock, and we're still wanted for murder!"

The door burst open and Billy raced into the room. "A jet car just turned off the highway! It's coming here!"

"We've got to get out of here!" said Tom. He turned to Jeff. "If it's Vidac, tell him you've come to take Jane out on a date. That should explain your presence. Then get the professor's journal and give it to Captain Strong. He'll know what to do!"

Roger and Astro were cramming food in their pockets. "Come on, Tom," said Roger. "I can hear the jets."

"What are you boys going to do?" asked Jane.

"Try to get to the *Polaris*," replied Tom. "Then we'll hunt for the professor. If we don't find him, we're sunk. He's the key to the whole thing."

Astro and Roger had tumbled out the window and were racing toward the safety of the near-by hills. Tom gave Jeff a final handshake and dived out the window after them. Running toward the clump of bushes where Astro and Roger had just disappeared, he dived for cover, just as Vidac's car roared into the clearing. The boys saw Vidac and Bush get out of the car, and after inspecting Jeff's, turn and stride into the house.

"Come on," said Tom. "We've got to get to the *Polaris!*"

The three boys turned away and hurried from the farm. In a few minutes, after scrambling to the top of the nearest hill, they turned back to look down on the farmhouse and saw Jeff escorting Jane to his car.

"So far so good," said Tom. "Let's go."

They walked off and were soon lost in the tangle of scrub grass and dry gullies, their destination the *Polaris* and the solution to the mystery of Professor Sykes's disappearance.

CHAPTER 19

Strong's plan to follow Vidac in order to locate Hardy had paid off. While Vidac and Bush were rounding up citizens of Roald City and sending them out to search for the Space Cadets, the Solar Guard captain had checked the frequency setting on the communicator in the lieutenant governor's jet car. Then hiding in Professor Sykes's laboratory, Strong tuned the lab communicator to the same frequency and waited. He knew he was taking a chance. Vidac might not contact the governor on that setting if he contacted the governor at all, but there was no other way at the moment. Strong waited three hours before hearing the click of Vidac's communicator on the laboratory speaker.

"Able One to Able Two. Can you hear me, Able Two? Come in, Able Two!" Vidac's voice crackled through the set.

Strong listened intently and was rewarded by the sound of another click and another voice speaking.

"Able Two to Able One. Come in."

"I've got Strong," reported Vidac, "and the cadets are somewhere in the hills between here and the spaceport. I've just organized the colonists into searching parties and am about to leave."

"Good. Contact me the minute you find them."

"Right. Keep an eye out for them. They might try to reach the spaceport."

"Very well. I've set up an alarm on the outer hatch. No one can get aboard without my knowing it."

"Right. Able One out."

"Able Two out."

Strong heard the clicks of the two communicators and sat back, breathing hard. He had recognized the voice of Able Two instantly. It was Governor Hardy. He was at the spaceport, hiding aboard a spaceship. But why? Could he be mixed up in this affair?

Pacing the floor restlessly, Strong tried to figure out the connection. Hardy's reputation was spotless. It seemed inconceivable that he could be involved with Vidac. And yet Hardy had selected Vidac as his right-hand man. And Vidac couldn't have gotten away with his treatment of the colonists unless Hardy had silently endorsed his orders.

The Solar Guard captain left the laboratory and watched the colonists as they milled around in front of the Administration Building. Vidac's jet car was in the middle of the group of men and Strong saw him jump up on top of the

car and begin addressing them. He couldn't hear the lieutenant governor's words, but he knew the men were being urged to hunt the cadets down like common criminals. He watched until Vidac rocketed off in his jet car, followed by a stream of colonists in various types of vehicles. In a few moments the area in front of the Administration Building was quiet and deserted. Strong began searching for a jet car.

* * * * *

Jeff Marshall turned sideways in his seat and looked at the pretty face of Jane Logan. Her brow was furrowed with worry.

"Are you afraid?" asked Jeff as he guided the car down the private road leading to the highway.

"I'm frightened to death!" murmured Jane. "That man Vidac is so ruthless!"

Jeff grunted. "I have to agree with you there. But Tom is right. We need proof before we can stop him."

The girl shrank back. As far as one could see, the road was lined with jet cars. Colonists with paralo-ray guns and anything that could be used as a weapon were scrambling around in the hills.

"What does it mean?" asked Jane.

"I don't know," replied Jeff. "But I think it's a search for the cadets!"

"Oh, no!" cried Jane.

"I hope they'll let us through," said Jeff. He pressed down on the accelerator and started moving along the line of cars. On either side of the highway, he saw colonists beating the bushes, looking behind rocks and boulders, shouting at each other as they pressed their hunt for Astro, Tom, and Roger. Jeff managed to get halfway past the line of cars when ahead of him another jet car pulled out across the highway, blocking it. He was forced to stop.

"Hold on there!" roared a man suddenly appearing at the side of the car, holding a paralo-ray gun pointed directly at Jeff.

Jeff looked at him in mock surprise. "What's going on here?" he asked.

"Who are you?" demanded the man roughly.

"Jeff Marshall. And this is Jane Logan. What's all the fuss about?"

"We're looking for the Space Cadets. They murdered old Professor Sykes!" snapped the man. His eyes narrowed and he looked at Jeff closely. "You were pretty chummy with them, weren't you?" he asked.

"Sure, I knew them," replied Jeff calmly. "But if they've done anything to the professor, I want them caught as badly as you do. I've been the professor's assistant for years. He's—he's like a father to me."

Several of the other men had gathered around the car and were listening. "That's right, Joe," said a man on the outside of the group. "This feller's okay.

And that's Logan's daughter, all right. They ain't done nothing."

"When was the last time you saw the cadets?" demanded the man called Joe.

"Why, a couple of days ago," Jeff replied.

There was a long pause while the man continued to look at Jeff ominously. Finally he stepped back and lowered the paralo-ray gun. "All right, go on. But if you see those murdering cadets, let us know. We're out to get them, and when we do, we're going to—"

"But what right have you to do this on your own?" cried Jane.

"We ain't," said Joe. "Governor Vidac made us all special deputies this morning."

"But we'd do it, anyway," cried someone from the rear of the crowd. "Those Space Cadets are guilty and we're going to see that they get what's coming to them!" There was a roar of agreement.

Jeff nodded, stepped on the accelerator, and eased the car slowly through the group of men. As soon as he was free, he stepped down hard and sent the jet car racing along the highway back toward Roald City.

"Jeff—Jeff," asked Jane despairingly, "do you think they'll catch the boys?"

"I don't know," replied Jeff grimly. "But if they are caught, the only way we can save them is to find the professor's journal and pray that the uranium report is in it."

"But you said the information would be there," said Jane.

"When you need something as badly as we need that report," replied Jeff, "you never find it."

* * * * *

The three Space Cadets were watching their pursuers from a high ridge. They had been driven back all day, and now they could go no farther. Caught while climbing down the other side of the hills from the Logan farm, they had narrowly escaped detection at the very beginning and had been racing from cover to cover ever since. Now there was no place to go. It was only a question of time before the colonists would reach the top of the ridge and find them.

"What do you think they'll do?" asked Roger.

"We'll be sent off this satellite so fast," answered Tom, "you'll get sick from acceleration."

"Why?" asked Astro.

"Vidac won't want us hanging around. Not since Captain Strong is here. He'll give us a trial within an hour, sentence us to life on a prison rock, and delegate some of his boys to take us back. We don't have a chance."

Astro let out a low animal-like growl. "If that happens," said the giant Venusian, "I'll get off that rock someway, somehow. And I'll find Mr. Vidac. And when I do—"

"No need to talk like that now," said Tom. "Let's just not get caught!"

"But how?" asked Roger. "Look, over there! They've already reached the top of that ridge on the left. The party on the right will be up there soon too. We're trapped!"

"Wait a minute," said Astro. He picked up a huge boulder and hefted it in his arms. "We can stand them off all day by tumbling rocks down on them."

"And kill innocent people who don't know what they're doing?" asked Tom. "No—put it down, Astro!"

"All right, brains!" snapped Roger. "What have you got to suggest?"

"There's only one thing we can do!" said Tom. "Down on the side of the hill here I noticed a small cave. Two of us could squeeze inside."

"Why only two?" asked Astro.

"Somebody would have to cover the entrance from the outside with a boulder and then give himself up!"

Astro slapped Tom on the back. "That's a terrific idea. Come on. You two hide and I'll move the rock over."

"Wait a minute, you goof," said Roger. "Don't be in such a hurry to be a blasted hero!" He turned to Tom. "Just like that Venusian hick to be ready to sacrifice himself to get a Solar Medal!"

"Don't argue, Junior," snapped Astro. "I'm the only one strong enough to move one of those rocks. You two hide and I'll cover you."

"Now wait a minute, Astro," Tom protested. "I didn't mean…"

"You should have," replied Astro. "And if you don't get moving now, you'll never make it!"

Roger looked at Tom and nodded. "Guess he's right for once in his life, Tom. He's the only one strong enough to do it."

Tom hesitated and then slapped Astro on the back. "All right, Astro," he said. "But there's more to it than just giving yourself up! You've got to make them think that Roger and I ran out on you. That way they'll continue to search for us, but in another direction. And Vidac won't try to do anything to you alone. He'll wait until he's got all of us."

"O.K.," said Astro. "I get it. Come on. Get in that cave."

The three boys scrambled down the side of the hill and found the cave Tom had seen. After a quick search Astro found a boulder that half-covered the front of the cave, and the three boys pushed it close to the entrance.

"Go on. Get inside now," said Astro. "I'll push this one into position and then pile a few smaller ones on top and around it. That way you'll be able to get air and still be hidden."

Tom and Roger crawled into the hole and settled themselves as Astro pushed the boulder up against the opening. He piled the other stones around it quickly. When he had just about finished he heard someone behind him. He

turned and saw one of the colonists scrambling down the side of the hill, heading for him.

"Here they come," Astro whispered hoarsely. "Spaceman's luck!" He dropped the last stone in place and turned to face the man who was now almost upon him.

Tom and Roger crouched in the darkness and listened intently.

"You there!" they heard the colonist cry. "Halt! Don't move or I'll freeze you!"

Astro stood still. The man came up to him and felt the cadet's uniform for a hidden weapon. Then he jammed the ray gun into Astro's back and ordered him down the hill. Astro started walking, hardly daring to breathe, but suddenly the man stopped.

"Where are the others?" he demanded.

"They ran out on me."

"Ran out on you. I thought you three were supposed to be such good buddies?"

"When the chips were down," said Astro as harshly as he could, "they turned out to be nothing but yellow rats!"

"Which way did they go?"

"I don't know," said Astro. "It happened last night. We went to sleep, and when I woke up, they were gone."

"Where'd they go?" snarled the man, pushing the ray gun into Astro's back.

"I—I—" Astro pretended he didn't want to talk.

"I'll freeze you, so help me," said the man. "I'm going to count five—one, two, three, four—"

"Don't! I'll tell you!" cried Astro. "I'm not sure, but I think they headed back for the city. We were talking about it last night. We figured it would be the best place to hide."

"Ummm. That makes sense," said the man. "I guess you're telling the truth. Now get down the hill. One false move and I'll blast you!"

Astro turned and stumbled down the hill in front of the paralo-ray gun. A smile tugged at his lips.

Vidac and Bush were waiting for them on the highway at the bottom of the hill.

"Where are Corbett and Manning?" Vidac demanded, looking at Astro.

Astro repeated the story about Tom and Roger having deserted him.

Vidac eyed him speculatively. "They just walked out on you?" he asked.

Astro nodded.

Vidac turned to the colonists who were standing around listening to the giant Venusian's story. "All right, men," he said, "I guess he's telling the truth. Back to the city. There aren't too many places they could be hiding."

The men turned and ran for their cars. Vidac continued to look at Astro, a thin smile tugging at his lips, his eyes twinkling. "You stay here with me, Bush," said Vidac.

"But you said—"

"Never mind what I said," snapped Vidac. "I'm telling you to stay here. Have some of the colonists double up and leave a jet car here."

In a few moments the rest of the jet cars were roaring off toward the city. Vidac waited until the last car had vanished down the road, then he turned to Astro, "Do you really think you fooled me with that stuff about Manning and Corbett running out on you?"

"What happened to them then?" asked Astro innocently.

"We'll see," said Vidac softly, looking up into the hills.

Holding a paralo-ray gun on the giant cadet, Vidac forced him into his jet car. Bush slid under the wheel and started the jets.

"You think the cadets are still up there in the hills?" asked Bush.

"Never mind what I think," snapped Vidac. "Head for the spaceport."

Vidac spun around in his seat and looked back along the highway. He punched Astro in the shoulder and motioned for him to look. Astro turned to see the jet car left by Vidac pulling away from the hills.

"They must have heard every word I said," mused Vidac. He turned to Bush. "When they reach the spaceport, don't bother waiting for them to get out of the car. Blast them on sight!"

"What are you going to do?" asked Astro tightly.

"Don't you remember your Space Code laws, Astro?" asked Vidac. "Article Sixteen? It specifically states that in cases of emergency, the commanding officer of a Solar Guard community can be the judge and jury, and can pass sentence for felonies or worse. In two hours you and your buddies will be aboard the *Polaris*, under guard, and headed for a life sentence on a prison rock!" He laughed. "And I'll make it stick!"

CHAPTER 20

Jeff Marshall was just turning the jet car into the Plaza in front of the Administration Building when Jane suddenly grabbed his arm.

"Jeff, look!" she cried. "Isn't that Captain Strong?"

The enlisted spaceman slowed the car and followed the direction of Jane's pointing finger. He saw Strong step around the corner of the Administration Building, stop, then scurry back around to the side. The streets of the city were deserted. "He's running away from us," said Jeff. "Probably thinks we're part of that searching party coming back."

He brought the car to a screaming halt in front of the building and jumped out, calling, "Captain Strong!" His voice echoed through the deserted streets. "This is Jeff Marshall!"

Peering around the corner of the Administration Building, Strong saw Marshall clearly and then recognized the daughter of Hyram Logan. He dashed out of his hiding place and greeted them with a yell.

"Jeff! Jeff! Over here!"

The three friends of the Space Cadets were soon telling each other the latest developments. Strong listened to Jeff's story of the professor's work journal and shook his head disgustedly. "I was in that lab for nearly four hours this morning," he said. "If I had only known."

"Don't blame yourself, sir," said Jeff. "You didn't know it was there!"

"Let's find it now," said Jane desperately. "We're losing time. Those men back in the hills may catch the boys."

"They haven't been caught yet," asserted Strong. "And if I know my cadets, those men will have a hard time nailing them. Come on!" He turned and raced into the Administration Building, heading for Professor Sykes's laboratory.

In less than five minutes Jeff was searching through the pages of the professor's work journal. "There's no telling when he made the discovery," said Jeff, scanning the mass of complicated diagrams and figures.

"It must have been soon after our arrival on Roald," said Jane. "That was when we saw him searching the hills around our farm."

Jeff flipped the pages back to the front of the book and began to read it from the beginning. "Here's something!" He quoted some figures from the book and looked at Strong.

"That make any sense to you, sir?" he asked.

"It sure does!" said Strong. "That's a preliminary survey on uranium! He's just getting the scent there. Keep reading."

Jeff turned a few more pages and suddenly stopped. "Here it is!" he exclaimed. "And say—look at this!" He handed the journal over to Strong who began to read quickly. "'… conclusive proof found today in hills surrounding farming area of Hyram Logan. Potentially the biggest hot metal strike I've ever seen. Am going to make a report to Vidac today. This could mean the beginning of a new era in space travel. Enough fuel to send fleets of ships on protracted voyages to any part of the universe…'"

Strong stopped reading and looked at Jane and Jeff.

"This was dated the tenth." He turned the page and continued, "This is the day after, the eleventh. Listen to this! '… Vidac is sending my information to the Solar Council immediately. He was very impressed.' And so forth and so forth."

Strong closed the journal and faced Jeff and Jane again, a triumphant smile on his lips. "This is just what we needed. This journal is admissible in Solar Courts as evidence the same way a ship's log is! Come on. Now we've got to get Vidac before he gets the cadets!"

"Wait," said Jane in a fearful whisper. "Listen."

Strong and Jeff stood still. In the distance they heard the unmistakable roar of jet cars converging on the Plaza. Strong turned to Jeff. "They've either found the cadets or—"

"Or what?" asked Jeff.

"I—I won't say it," said Strong hesitantly, "but if anything has happened to those boys, I'll personally dig Vidac's grave!"

Jane had moved to the window and was watching the wild activity in the Plaza below. "They're spreading out!" she cried. "They must be searching the city."

Strong rushed to the window and looked down. "That means they haven't found the cadets!" he exclaimed.

"I've been thinking, sir," said Jeff. "Do you think we really have enough proof of Vidac's guilt to make the colonists understand it was Vidac and not the cadets who could have done something to the professor?"

"We've got to try!" said Strong. "We've got to try!"

The two spacemen and Jane left the laboratory and raced down the slidestairs and through the halls of the Administration Building to the double doors that opened onto the Plaza. They stepped into view just as the colonists were about to spread out and search the city. One of the men was standing on the steps shouting orders. Jeff recognized him as Joe, the man who had stopped him on the highway. There was a roar from the crowd when they noticed Strong, Jeff, and Jane standing in the open doorway.

Strong held the black journal high over his head and called for order. The colonists crowded around at the base of the steps not knowing what to make of his sudden appearance.

"What are you doing here?" demanded the colonist deputy. "You're Captain Strong of the Solar Guard, aren't you?"

"That's right," replied Strong. "And you're making a big mistake accusing the cadets of the murder of Professor Sykes, when you're not even sure the professor has been murdered! The man you want to question about that is Lieutenant Governor Vidac!"

A startled murmur ran through the assembled men. Strong continued, "I have absolute proof that Vidac received information about the biggest uranium strike in the history of the universe from Professor Sykes and plans to keep it for himself. His accusation of the cadets is a cover-up to clear himself and to throw you off the track."

The word *uranium* spread through the crowd like wildfire.

"You're pretty friendly with the cadets," sneered the deputy. "How do we know you're telling us the truth, and not just trying to save them?"

"Yeah. Answer that one!" roared a voice from back of the crowd.

"Do any of you understand physics?" asked Strong.

"Physics?" asked the deputy. "What's that got to do with it?"

"Plenty! I have information here in this journal that will prove what I just said! Read it for yourself. It's in the professor's own handwriting."

"I can read it," said a small man in front of Strong. "Gimme that thing!" Strong handed him the black book and told the man where to look. The man considered it for five minutes, then turned to the crowd. "He's right! We're sitting on the hottest uranium rock in this galaxy!"

"Where is it?" cried someone from the crowd. "Tell us where the uranium is!"

The mob of men, forgetting all about the cadets, were now seized with the greed for riches. Strong took the journal back and tucked it under his arm.

"I'll tell you where it is," said Strong, "when we put Vidac where he belongs! Behind bars!"

"What are we waiting for?" cried the colonists. "Let's get that murdering space crawler!"

The deputy pushed his way through the crowd and raced for his car. Others followed and once more the Plaza echoed to the roar of jets.

Strong turned to Jeff. "You'll find Winters up in Vidac's quarters. I had to freeze him." He handed over the paralo-ray gun. "Get him and follow us to the spaceport. Tell him we know everything, and if he doesn't talk, he'll get life on a prison rock."

"Right," said Jeff. "I'll get a confession out of him if I have to wring his neck—and I'll get it on a soundscriber!"

"Good. Come on, Jane," said Strong. "This is the finish of a would-be tyrant!"

Jeff turned and dashed back into the building, while Strong and Jane climbed into the jet car and roared off toward the spaceport.

"If we only had a paralo-ray gun," muttered Roger as he and Tom sped after Vidac's powerful jet car.

"Yes," agreed Tom. "This could be a trap, but what can we do?"

Roger was silent. They had moved out of the cave as soon as Astro had been taken down the hill and they knew exactly what Vidac had in mind. But their need for information about Professor Sykes and their concern for Astro forced them to follow the powerful jet car into what they were certain was a trap.

"We'll ditch the jet car after we find out where they're going," said Tom, "and figure out something afterward."

"You think they'll go to Sykes?" asked Roger.

"It's a pretty safe bet, Roger. The professor's been well hidden, so why not hide Astro in the same place, hoping in the meantime to get us also."

"But I can't see walking into a trap, simply because we know it's there!"

"Roger—look! Vidac's stopping the car! Astro's trying to get away!"

"Astro's fighting with Bush!" shouted Roger. "Come on! Can't you get any more push out of this wagon?"

Tom jammed the accelerator down to the floorboard and the jet car fairly leaped ahead. Fifty yards from Vidac's stalled car, Tom slammed on the brake, bringing the little car to a screaming halt only two feet away. Roger was halfway out before the car had stopped moving. Beside Vidac's car, Bush was wrestling with Astro.

"Tom! Roger! Get back! It's a trap!" yelled Astro.

Astro's warning came too late. While Tom and Roger sprang to help their unit mate, Vidac slipped up on the other side and fired quickly and accurately with a paralo-ray gun. Tom and Roger were frozen just as they were about to pull Bush from Astro's back.

Vidac swung the ray gun around toward Astro. "See that, big boy?" He laughed. "Well, you're going to get the same thing if you make one funny move. Now pile those two stiffs into the back of my car! Get moving!"

Seething with frustration and rage, Astro turned to Roger and Tom, standing like solid slabs of stone. He picked up Roger and carried him gently to the car, placing him in the back. Then he turned and walked toward Tom. He made a slight movement toward Vidac and Bush, but they leveled their guns quickly.

"None of that," warned Vidac. Astro's shoulders drooped. He was almost in tears as he walked toward Tom. The curly-haired cadet stood immovable, staring at his friend. The Venusian leaned over and picked up Tom gently.

"Take it easy, Astro," whispered Tom, not moving his lips. "I'm not frozen. He missed me!"

Astro nearly jumped at the sound of Tom's voice. He recovered quickly, fighting back a grin of triumph. He threw a quick glance at Vidac and Bush, then carefully picked Tom up and carried him to the car. As he was about to turn around again, he felt the sudden jolt of the paralo ray, and in the split-second before the ray took effect, Astro nearly laughed.

* * * * *

Under the effects of a paralo-ray charge the body is paralyzed and there is no feeling. Tom, however, lying beside Roger but beneath Astro in the back seat of the car, began to suffer painful muscular cramps. He gritted his teeth, trying to lie rigidly still, but his arms and legs began to jerk spasmodically and he had to move.

Slowly he eased one arm from beneath Astro's heavy body and shifted his legs into a more comfortable position. Though the Venusian's weight still pressed him down in the seat, the muscular cramps were relieved. He began to pay attention to what Vidac and Bush were saying in the front seat of the car.

"We'll blast off as soon as we reach the spaceport," said Vidac, "and get up to the asteroid."

"Why so fast?" asked Bush.

"I want to get rid of those nosy space rats as quickly as possible. Then I'll go after Strong."

Bush shook his head. "That won't be easy. Strong's not a Space Cadet. He's Solar Guard. And good Solar Guard at that!"

Tom smiled in wholehearted agreement with the lieutenant governor's henchman.

Vidac sneered. "Don't make me laugh! Didn't you see the way I convinced those dumb colonists that the cadets were responsible for the professor's murder? If they'd stopped to think about it, they would have realized I was putting one over on them. All you have to do is keep talking, fast and loud. Keep them off balance, and don't let them think."

"There's the spaceport road," said Bush. "And there's the *Polaris*. I hope we don't have any trouble with the grease monkeys when they see us hauling the cadets out."

"If they start anything," said Vidac with a sneer, "you know what to do."

"Sure," said Bush, patting his paralo-ray gun.

The car roared through the gates of the spaceport and sped across the hard surface of the field. A moment later it came to a shuddering stop at the base of the giant rocket cruiser.

"All right," said Vidac. "Get them aboard the ship. Hardy will blow a gasket if we don't get this over with in a hurry."

Hardy! The name hit Tom like a trip hammer. So Hardy was mixed up in it! Hardy, the respected Governor of Roald, the man responsible for the welfare of the colony and the lives of the colonists, was really a swindler and a thief. Now if Jeff only had Professor Sykes's journal they could tie everything together, providing he could stop Vidac from sending them off to a prison rock! Tom's thoughts were suddenly interrupted by the movement of Astro's heavy body on top of him. The young cadet broke out into a cold sweat. When he had been supposedly hit by the paralo ray his arms had been outstretched! He had been so busy thinking about Hardy's connection with Vidac that he had forgotten to resume his original position.

Astro was hauled out of the car and Bush reached in the car to get Tom. The boy braced himself and waited as the spaceman grabbed him by the feet. He was pulled roughly out of the door and stood on his feet. Out of the corner of his eye he could see that Astro had been stood up beside the car like a tree. Vidac turned away from the giant cadet and started to give Bush a hand. Suddenly he stopped and pulled out his paralo-ray gun.

"Boss, what're you doing?" cried Bush, jumping away from Tom and leaving the cadet rocking on his feet, trying to pretend he was still paralyzed. He toppled forward, and before he realized what he had done, threw out his hands to break his fall.

Vidac laughed. "I have to hand it to you, Corbett. That was the best bit of acting I've ever seen in my life."

Tom picked himself up from the ground and glared at Vidac. Bush stood to one side, too startled to realize what had happened.

"You mean, he—he—" Bush stammered, his eyes wide with alarm.

"That's right," said Vidac. "The wonder boy of the space lanes acted as if he was frozen. What were you going to do, Corbett? Take over, maybe?"

"You'll never get away with it, Vidac," said Tom through clenched teeth. "You're through and you know it!"

"Not yet, my friend," said Vidac. "You've had your fun. Now get your friend out of the car and carry him aboard the *Polaris*. We're all going for a little ride!"

Tom turned reluctantly and began pulling Roger out of the back of the car. He realized that he could take no more chances with the paralo ray. As long as he was awake, there was a chance for him to do something. He lifted Roger gently to his shoulder, turned, and staggered toward the cruiser. Just as he was about to step inside the hatch, he heard the faint roar of jets in the distance. He stumbled and fell purposely to stall for time. He and Roger sprawled full length on the deck. As Tom sat up and rubbed his knee, Bush rushed over, leaving Vidac to struggle with the immense bulk of Astro.

"Get up!" snarled Bush. He poked the gun within an inch of Tom's face. The cadet knew that if Bush fired at such a close range, his brains would be burned to a crisp. He fell away from the gun.

"I wrenched my knee," he whined. "I can't get up!"

"If you don't get up by the time I count three," growled Bush, "I'll blast you! One, two—"

The roar of the jets was closer now and Tom's heart began to race. Feigning pain in his leg, he started to pull himself to his feet. He glanced toward the spaceport entrance and saw a stream of jet cars pouring into the field, heading for the *Polaris*. Suddenly Tom leaped for Bush from the crouching position. He lashed out with his right fist, while grabbing for the ray gun with his left.

Bush was not to be tricked so easily. He fired just as the cadet jumped. But in trying to evade Tom's crashing right hand, he missed his shot and was grazed by Tom's fist. He fell back out of the spaceship, his gun falling inside the air-lock portal.

Tom lay on the deck, wincing in pain. The wild shot had caught him in the right leg and he was unable to move it. He crawled across the deck, reaching for the gun as Bush came charging up the ramp.

Meanwhile, Vidac, seeing the commotion in the hatch of the spaceship, pulled his gun and leveled it at Tom. But Bush charged through the hatch just as Vidac fired and he caught the full blast of Vidac's shot. He landed on the deck beside Tom, stiff as a board.

Tom reached for the gun, preparing to fight it out with Vidac. But the odds were against him. His leg was completely paralyzed and Vidac was climbing into the ship. He knew he couldn't reach the gun in time.

Suddenly Vidac became aware of the jet cars streaming into the spaceport. He stopped and turned to look at them. Then, sensing something was wrong, he turned back to dash into the *Polaris*. The second his back was turned was sufficient time for Tom to grab the gun and fire. Vidac was stopped cold, his bright eyes burning with hate, unable to move.

"You can drop that now," said a voice in back of Tom.

The curly-haired cadet whirled around to face Governor Hardy, holding a paralo-ray rifle up to his shoulder, aimed and ready to fire.

"You're a good spaceman, Corbett," said Hardy in a cold, harsh voice, "but this is the last time you'll ever get into my hair!"

Tom's leg prevented him from moving and he had turned in an awkward sitting position to face Hardy. All he could do was bring his gun up quickly and fire over his left shoulder. Hardy fired at the same instant. At such close range neither could miss.

When Captain Strong and the colonists dashed into the ship they found two perfect statues.

CHAPTER 21

"And you kept giving Hardy wrong information?" asked Strong with a laugh.

"Yes!" snorted Professor Sykes with a wry grin. "You see, I knew right away Vidac was doing something funny way back—" He paused to sip his tea. "Way back before we landed on Roald." He grinned broadly at the people seated around the table in the dining room of the Logan house, Roger, Astro, Jeff, Tom, Jane, Billy, Hyram, and Strong.

After Strong had released the Space Cadets from the effects of the paralo rays, they had searched the *Polaris* and found the professor locked in one of the cabins. Placing Vidac and Hardy under arrest and confining them in the brig of the ship with Winters and Bush, they had returned to the Logan farm to clear a few of the mysteries surrounding the nightmare of violence since their landing on Roald.

"When Vidac and Hardy refused to let me go down and make an inspection of the satellite after the instruments conked out, I knew there was something fishy," Sykes continued. "Any fool could have seen that radio-activity would be the only thing to cause an instrument disturbance like that!"

"Then Vidac and Hardy knew about the uranium?" asked Strong. "We only discovered it at Space Academy ourselves a little while ago."

"They knew about it all right," asserted Sykes. "Hardy told me so himself. He got the information from an old prospector who had made application to come to Roald as a colonist. The space rat had been here before, as a sailor on a deep spacer that had wandered off course. The ship was running low on water so the skipper sent him down to the satellite to see if he could find any. He found the water and the uranium too. But he clammed up about that, hoping to keep it a secret until he could go back and claim it. His only chance was to become a colonist, and when he washed out in the screening, he told Hardy, hoping to bribe his way. Of course Hardy double-crossed him to get the uranium himself. That was why you were pulled off the project and sent to Pluto, Strong. Then he got Vidac to be his aide and everything looked rosy."

"It's still hard to believe that Hardy was behind the whole operation," said Astro, shaking his head. "Imagine—the governor of the colony ratting on his own people."

"It's happened before, unfortunately," commented Strong. "Better men than Hardy have succumbed to the lure of riches and power."

"You're right, Strong," snapped Sykes. "That's just what happened to

Hardy. While I was his prisoner on the *Polaris*, he kept boasting about how rich he was going to be—how powerful. When I reminded him of his past achievements and of his responsibility to the colony, he just laughed. He said getting the uranium meant more to him than anything in the world." The little professor sighed. "If it hadn't been for the cadets, he would have gotten away with it."

"But wait a minute," said Roger. "If you suspected Vidac, why did you give him the information on the uranium to send back to the Solar Guard?"

"I just told him about a puny little deposit near the Logan farm," replied Sykes. "The big strike is on the other side of the satellite. I figured that if Vidac was honest it wouldn't hurt to delay sending information back about the big strike until later." He paused and added, "But then, of course, I had to tell him about the big strike."

"You had to tell him!" exclaimed Jeff. "But why?"

"To stay alive, you idiot!" barked Sykes. "As long as I had something they wanted, they'd keep me alive until they found out about it. They gave me truth serum, but I'm immune to drugs. All Solar Guard scientists are. They didn't know that. So I told them to look here, then there, acted as though I had lost my memory. It worked, and here I am."

"What about the way they antagonized us?" asked Tom. "Refusing to let us contact Space Academy and sending us out on a stripped-down rocket scout to investigate the asteroid cluster. It seems to me they should have acted a little more friendly to throw us off the track. All they did was arouse suspicion and get us sore."

"But they hoped that you would get angry enough to do something rebellious, so that they could send you back," said Sykes.

"Well, that makes sense," said Strong. "But what about their treatment of the colonists?"

"Humph. A clear case of attempting to get the colonists to rebel which would give them the right to absolute control of the entire satellite and the people. Cadet Tom Corbett here is to be congratulated for not allowing Mr. Logan to go around like a vigilante and get us all in a space hurricane!"

Hyram Logan blushed and cleared his throat noisily.

The door suddenly opened and a uniformed messenger thrust a dispatch into Strong's hands.

"What's this?" asked Strong, tearing the Solar Guard seal.

"Message from spaceport control, sir," said the messenger. "They report a fleet of ships approaching Roald, under full thrust."

"A fleet!" gasped Strong. "But how? Why?"

Sykes laughed, winked at Jane, and slapped his thigh. "The Solar Guard coming to the rescue!"

"Solar Guard!" chorused the others at the table.

"Yes! Solar Guard. I sent for them. I figured if the cadets could build a communicator, I could too. I did it on the *Polaris* when Hardy went searching

for the uranium. I told the whole story to Commander Walters back at Space Academy."

"Well," sighed Roger, "with the confession Jeff got from Winters on the audioscriber, I guess we can consider the first civil disorder of the star satellite of Roald finished. Peace and harmony will reign. And speaking of harmony, Jane, would you like to take a walk in the starlight?"

"I'm sorry, Roger," answered Jane, blushing prettily, "but I've already been invited."

Roger's face fell. "You've already been invited?"

Jane nodded. "Ready, Astro?"

"Sure!" replied the giant Venusian. He rose, offered Jane his arm ceremoniously, and the two walked out of the house. Roger's face turned a deep scarlet. The others around the table burst into laughter.

"Ah, go blow your jets," growled Roger.

Billy's eyes were shining. He turned to Strong. "Captain Strong, how old do you have to be to get into Space Academy?"

Strong's eyes twinkled. "Since Roger doesn't seem to be too busy, why don't you ask him for all the Academy dope?"

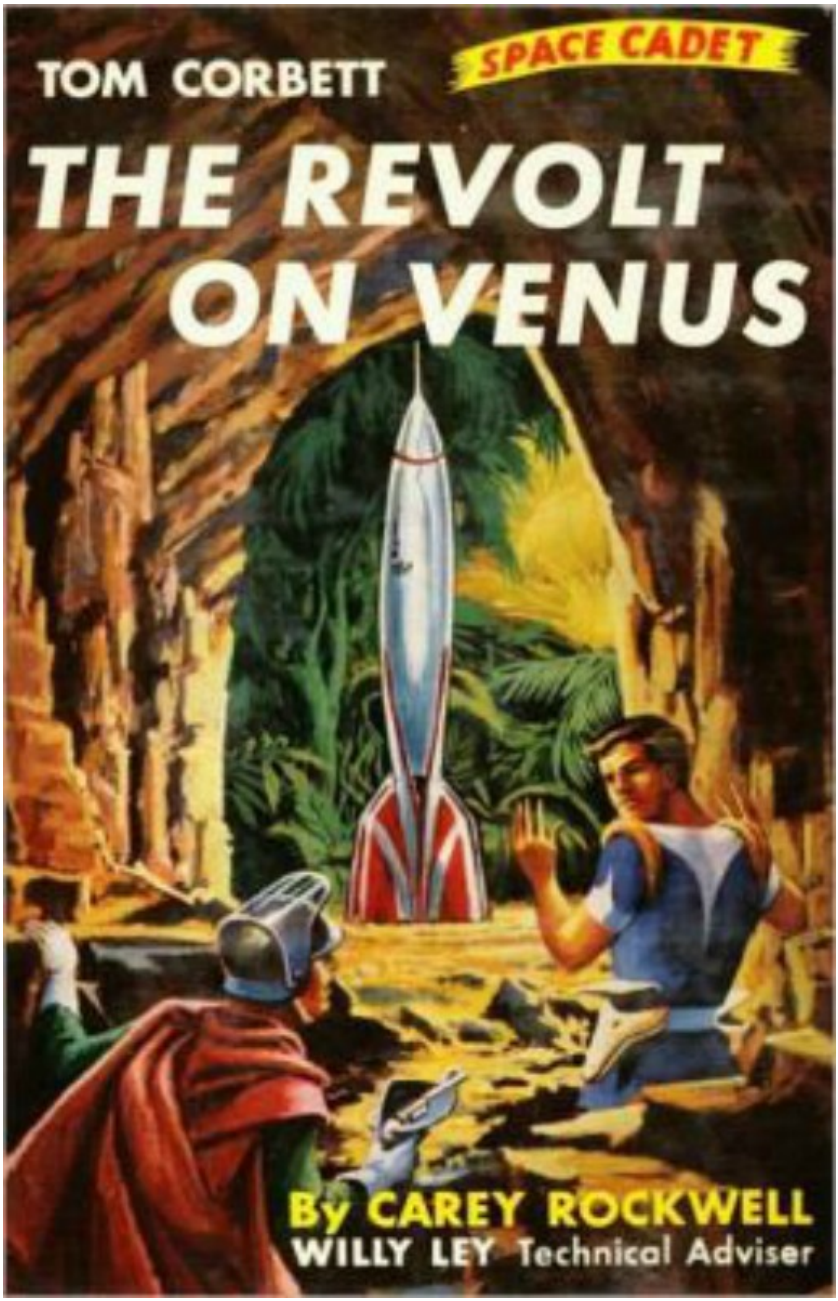
"Would you help me, Roger?" pleaded Billy. "I can recite the whole book of Academy 'regs' by heart!"

Roger glanced around the table with a sheepish grin. "There isn't but one regulation that's really important, Billy."

"Oh? What's that?"

"I'll answer that, Billy," said Tom. "Roger means the one that goes like this… 'no cadet will be allowed to entertain any work, project, or ideas that will not lend themselves directly to his immediate or future obligation as a spaceman.'" Tom stopped and smiled broadly. "And that means girls!"

THE END


TOM CORBETT
SPACE CADET
THE REVOLT ON VENUS
By CAREY ROCKWELL
WILLY LEY Technical Adviser

The Revolt on Venus

First Published 1954

A TOM CORBETT Space Cadet Adventure

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CHAPTER 1

"Emergency air lock open!"

The tall, broad-shouldered officer, wearing the magnificent black-and-gold uniform of the Solar Guard, spoke into a small microphone and waited for an acknowledgment. It came almost immediately.

"Cadet Corbett ready for testing," a voice crackled thinly over the loud-speaker.

"Very well. Proceed."

Seated in front of the scanner screen on the control deck of the rocket cruiser *Polaris*, Captain Steve Strong replaced the microphone in its slot and watched a bulky figure in a space suit step out of the air lock and drift away from the side of the ship. Behind him, five boys, all dressed in the vivid blue uniforms of the Space Cadet Corps, strained forward to watch the lone figure adjust the nozzles of the jet unit on the back of his space suit.

"Come on, Tom!" said the biggest of the five boys, his voice a low, powerful rumble as he rooted for his unit mate.

"If Tom makes this one," crowed the cadet next to him, a slender boy with a thick shock of close-cropped blond hair, "the *Polaris* unit is home free!"

"This is the last test, Manning," replied one of the remaining three cadets, the insigne of the *Arcturus* unit on the sleeve of his uniform. "*If* Corbett makes this one, you fellows deserve to win."

Aboard the rocket cruiser *Polaris*, blasting through the black void of space two hundred miles above Earth, six Space Cadets and a Solar Guard officer were conducting the final test for unit honors for the term. All other Academy units had been eliminated in open competition. Now, the results of the individual space orientation test would decide whether the three cadets of the *Arcturus* unit or the three cadets of the *Polaris* unit would win final top unit honors.

Roger Manning and Astro kept their eyes glued to the telescanner screen, watching their unit mate, Tom Corbett, drift slowly through space toward his starting position. The young cadet's task was basically simple; with his space helmet blacked out so that he could not see in any direction, he was to make his way back to the ship from a point a mile away, guided only by the audio orders from the examining officer aboard the ship. His score was measured by the time elapsed, and the amount of corrections and orders given by the examining officer. It was an exercise designed to test a cadet's steadiness under emergency conditions of space.

The three members of the *Arcturus* unit had completed their runs and had

returned to the ship in excellent time. Roger and Astro had also taken their tests and now it depended on Tom. If he could return to the *Polaris* in less than ten minutes, with no more than three corrections, the *Polaris* unit would be victorious.

Seated directly in front of the scanner, Captain Steve Strong, the examining officer, watched the space-suited figure dwindle to a mere speck on the screen. As the regular skipper of the *Polaris* crew, he could not help secretly rooting for Tom, but he was determined to be fair, even to the extent of declaring the *Arcturus* unit the winner, should the decision be very close. He leaned forward to adjust the focus on the scanner, bringing the drifting figure into a close-up view, and then lifted the microphone to his lips.

"Stand by, Corbett!" he called. "You're getting close to range."

"Very well, sir," replied Tom. "Standing by."

Behind Strong, Roger and Astro looked at each other and turned back to the screen. As one, they crossed the fingers of both hands.

"Ready, Corbett!" called Strong. "You'll be clocked from the second you're on range. One hundred feet—seventy-five—fifty—twenty-five—ten—*time*!"

As the signal echoed in his blacked-out space helmet, Tom jerked his body around in a sudden violent move, and grasping the valve of the jet unit on his back, he opened it halfway. He waited, holding his breath, expecting to hear Captain Strong correct his course. He counted to ten slowly, and when no correction came over the headphones, he opened the valve wide and blindly shot through space.

Aboard the Polaris, Astro and Roger shouted with joy and Strong could not repress a grin. The tiny figure on the scanner was hurtling straight for the side of the *Polaris*!

As the image grew larger and larger, anxious eyes swiveled back and forth from the scanner screen to the steady sweeping hand of the chronometer. Roger bit his lip nervously, and Astro's hands trembled.

When Tom reached a point five hundred feet away from the ship, Strong flipped open the audio circuit and issued his first order.

"Range five hundred feet," he called. "Cut jets!"

"You're already here, spaceboy!" yelled Roger into the mike, leaning over Strong's shoulder. The captain silenced him with a glare. No one could speak to the examinee but the testing officer.

Tom closed the valve of his jet unit and blindly jerked himself around again to drift feet first toward the ship. Strong watched this approach closely, silently admiring the effortless way the cadet handled himself in weightless space. When Tom was fifty feet away from the ship, and still traveling quite fast, Strong gave the second order to break his speed. Tom opened the valve again and felt the tug of the jets braking his acceleration. He drifted slower and slower, and realizing that he was close to the hull of the ship, he stretched his legs, striving to make contact. Seconds later he felt a heavy thump at the soles of his feet, and within the ship there was the muffled clank of metal boot

weights hitting the metal skin of the hull.

"*Time!*" roared Strong and glanced at the astral chronometer over his head. The boys crowded around as the Solar Guard captain quickly computed Tom's score. "Nine minutes, fifty-one seconds, and two corrections," he announced, unable to keep the pride out of his voice.

"We win! We win!" roared Roger. "Term honors go to the *Polaris*!"

Roger turned around and began pounding Astro on the chest, and the giant Venusian picked him up and waltzed him around the deck. The three members of the *Arcturus* unit waited until the first flush of victory died away and then crowded around the two boys to congratulate them.

"Don't forget the cadet who did it," commented Strong dryly, and the five cadets rushed below to the jet-boat deck to wait for Tom.

When Tom emerged from the air lock a few moments later, Roger and Astro swarmed all over him, and another wild dance began. Finally, shaking free of his well-meaning but violent unit mates, he grinned and gasped, "Well, from that reception, I guess I did it."

"Spaceboy"—Roger smiled—"you made the *Arcturus* unit look like three old men in a washtub counting toes!"

"Congratulations, Corbett," said Tony Richards of the *Arcturus* crew, offering his hand. "That was really fast maneuvering out there."

"Thanks, Tony." Tom grinned, running his hand through his brown curly hair. "But I have to admit I was a little scared. Wow! What a creepy feeling to know you're out in space alone and not able to see anything."

Their excitement was interrupted by Strong's voice over the ship's intercom. "Stand by, all stations!"

"Here we go!" shouted Roger. "Back to the Academy—and leave!"

"*Yeeeeoooooow!*" Astro's bull-like roar echoed through the ship as the cadets hurried to their flight stations.

As command cadet of the *Polaris*, Tom climbed up to the control deck, and strapping himself into the command pilot's seat, prepared to get under way. Astro, the power-deck cadet who could "take apart a rocket engine and put it back together again with his thumbs," thundered below to the atomic rockets he loved more than anything else in the universe. Roger Manning, the third member of the famed *Polaris* unit, raced up the narrow ladder leading to the radar bridge to take command of astrogation and communications.

While Captain Strong and the members of the *Arcturus* unit strapped themselves into acceleration cushions, Tom conducted a routine check of the many gauges on the great control panel before him. Satisfied, he flipped open the intercom and called, "All stations, check in!"

"Radar deck, aye!" drawled Roger's lazy voice.

"Power deck, aye!" rumbled Astro.

"Energize the cooling pumps!" ordered Tom.

"Cooling pumps, aye!"

The whine of the mighty pumps was suddenly heard, moaning eerily

throughout the ship.

"Feed reactant!"

The sharp hiss of fuel being forced into the rocket engines rose above the whine of the pumps, and the ship trembled.

"Stand by to blast," called Tom. "Standard space speed!"

Instantly the *Polaris* shot toward Earth in a long, curving arc. Moments later, when the huge round ball of the mother planet loomed large on the scanner screen, Roger's voice reported over the intercom, "Academy spaceport control gives us approach orbit 074 for touchdown on Ramp Twelve, Tom."

"074 Ramp Twelve," repeated Tom. "Got it!"

"Twelve!" roared Astro suddenly over the intercom. "Couldn't you make it closer to the Academy than that, Manning? We'll have to walk two miles to the nearest slidewalk!"

"Too bad, Astro," retorted Roger, "but I guess if I had to carry around as much useless muscle and bone as you do, I'd complain too!"

"I'm just not as lucky as you, Manning," snapped Astro quickly. "I don't have all that space gas to float me around."

"Knock it off, fellows," interjected Tom firmly. "We're going into our approach."

Lying on his acceleration cushion, Strong looked over at Tony Richards of the *Arcturus* unit and winked. Richards winked and smiled back. "They never stop, do they, sir?"

"When they do," replied Strong, "I'll send all three of them to sick bay for examination."

"Two hundred thousand feet to Earth's surface," called Tom. "Stand by for landing operations."

As Tom adjusted the many controls on the complicated operations panel of the ship, Roger and Astro followed his orders quickly and exactly. "Cut main drive rockets and give me one-half thrust on forward braking rockets!" ordered Tom, his eyes glued to the altimeter.

The *Polaris* shuddered under the sudden reverse in power, then began an upward curve, nose pointing back toward space. Tom barked another command. "Braking rockets full! Stand by main drive rockets!"

The sleek ship began to settle tailfirst toward its destination—Space Academy, U.S.A.

In the heart of a great expanse of cleared land in the western part of the North American continent, the cluster of buildings that marked Space Academy gleamed brightly in the noon sun. Towering over the green grassy quadrangle of the Academy was the magnificent Tower of Galileo, built of pure Titan crystal which gleamed like a gigantic diamond. With smaller buildings, including the study halls, the nucleonics laboratory, the cadet dormitories, mess halls, recreation halls, all connected by rolling slidewalks—and to the north, the vast area of the spaceport with its blast-pitted ramps—the

Academy was the goal of every boy in the year A.D. 2353, the age of the conquest of space.

Founded over a hundred years before, Space Academy trained the youth of the Solar Alliance for service in the Solar Guard, the powerful force created to protect the liberties of the planets. But from the beginning, Academy standards were so high, requirements so strict, that not many made it. Of the one thousand boys enrolled every year, it was expected that only twenty-one of them would become officers, and of this group, only seven would be command pilots. The great Solar Guard fleet that patrolled the space lanes across the millions of miles between the satellites and planets possessed the finest, yet most complicated, equipment in the Alliance. To be an officer in the fleet required a combination of skills and technical knowledge so demanding that eighty per cent of the Solar Guard officers retired at the age of forty.

High over the spaceport, the three cadets of the *Polaris* unit, happy over the prospect of a full month of freedom, concentrated on the task of landing the great ship on the Academy spaceport. Watching the teleceiver screen that gave him a view of the spaceport astern of the ship, Tom called into the intercom, "One thousand feet to touchdown. Cut braking rockets. Main drive full!"

The thunderous blast of the rockets was his answer, building up into roaring violence. Shuddering, the great cruiser eased to the ground foot by foot, perfectly balanced on the fiery exhaust from her main tubes.

Seconds later the giant shock absorbers crunched on the ramp and Tom closed the master switch cutting all power. He glanced at the astral chronometer over his head and then turned to speak into the audio log recorder. "Rocket cruiser *Polaris* completed space flight one-seven-six at 1301."

Captain Strong stepped up to Tom and clapped him on the shoulder. "Secure the *Polaris*, Tom, and tell Astro to get the reactant pile from the firing chamber ready for dumping when the hot-soup wagon gets here." The Solar Guard officer referred to the lead-lined jet sled that removed the reactant piles from all ships that were to be laid up for longer than three days. "And you'd better get over to your dorm right away," Strong continued. "You have to get ready for parade and full Corps dismissal."

Tom grinned. "Yes, sir!"

"We're blasting off, sir," said Tony Richards, stepping forward with his unit mates. "Congratulations again, Corbett. I still can't figure out how you did it so quickly!"

"Thanks, Tony," replied Tom graciously. "It was luck and the pressure of good competition."

Richards shook hands and then turned to Strong. "Do I have your permission to leave the ship, sir?" he asked.

"Permission granted," replied Strong. "And have a good leave."

"Thank you, sir."

The three *Arcturus* cadets saluted and left the ship. A moment later Roger and Astro joined Strong and Tom on the control deck.

"Well," said Strong, "what nonsense have you three planned for your leave? Try and see Liddy Tamal. I hear she's making a new stereo about the Solar Guard. You might be hired as technical assistants." He smiled. The famous actress was a favorite of the cadets. Strong waited. "Well, is it a secret?"

"It was your idea, Astro," said Roger. "Go ahead."

"Yeah," said Tom. "You got us into this."

"Well, sir," mumbled Astro, turning red with embarrassment, "we're going to Venus."

"What's so unusual about going to Venus?" asked Strong.

"We're going hunting," replied Astro.

"Hunting?"

"Yes, sir," gulped the big Venusian. "For tyrannosaurus."

Strong's jaw dropped and he sat down suddenly on the nearest acceleration cushion. "I expected something a little strange from you three whiz kids." He laughed. "It would be impossible for you to go home and relax for a month. But this blasts me! Hunting for a tyrannosaurus! What are you going to do with it after you catch it?" He paused and then added, "If you do."

"Eat it," said Astro simply. "Tyrannosaurus steak is delicious!"

Strong doubled with laughter at the seriousness of Astro's expression. The giant Venusian continued doggedly, "And besides, there's a bounty on them. A thousand credits for every tyranno head brought in. They're dangerous and destroy a lot of crops."

Strong straightened up. "All right, all right! Go ahead! Have yourselves a good time, but don't take any unnecessary chances. I like my cadets to have all the arms and legs and heads they're supposed to have." He paused and glanced at his watch. "You'd better get hopping. Astro, did you get the pile ready for the soup wagon?"

"Yes, sir!"

"Very well, Tom, secure the ship." He came to attention. "Unit, *stand—to*!"

The three cadets stiffened and saluted sharply.

"Unit dismissed!"

Captain Strong turned and left the ship.

Hurriedly, Tom, Roger, and Astro checked the great spaceship and fifteen minutes later were racing out of the main air lock. Hitching a ride on a jet sled to the nearest slidewalk, they were soon being whisked along toward their quarters. Already, cadet units were standing around in fresh blues waiting for the call for final dress parade.

At exactly fifteen hundred, the entire Cadet Corps stepped off with electronic precision for the final drill of the term. By threes, each unit marching together, with the *Polaris* unit walking behind the standard bearers as honor unit, they passed the reviewing stand. Senior officers of the Solar Guard, delegates from the Solar Alliance, and staff officers of the Academy

accepted their salute. Commander Walters stood stiffly in front of the stand, his heart filled with pride as he recognized the honor unit. He had almost washed out the *Polaris* unit in the beginning of their Academy training.

Major Lou Connel, Senior Line Officer of the Solar Guard, stepped forward when the cadets came to a stop and presented Tom, Roger, and Astro with the emblem of their achievement, a small gold pin in the shape of a rocket ship. He, too, had had his difficulties with the *Polaris* unit, and while he had never been heard to compliment anyone on anything, expecting nothing but the best all the time, he nevertheless congratulated them heartily as he gave them their hard-won trophy.

After several other awards had been presented, Commander Walters addressed the Cadet Corps, concluding with "… each of you has had a tough year. But when you come back in four weeks, you'll think this past term has been a picnic. And remember, wherever you go, whatever you do, you're Space Cadets! Act like one! But above all, have a good time! Spaceman's luck!"

A cadet stepped forward quickly, turned to face the line of cadets, and held up his hands. He brought them down quickly and words of the Academy song thundered from a thousand voices.

"*From the rocket fields of the Academy*
To the far-flung stars of outer space,
We're Space Cadets training to be
Ready for dangers we may face.

Up in the sky, rocketing past,
Higher than high, faster than fast,
Out into space, into the sun,
Look at her go when we give her the gun.

We are Space Cadets, and we are proud to say
Our fight for right will never cease.
Like a cosmic ray, we light the way
To interplanet peace!"

"*Dis*-missed!" roared Walters. Immediately the precise lines of cadets turned into a howling mob of eager boys, everyone seemingly running in a different direction.

"Come on," said Roger. "I've got everything set! Let's get to the station ahead of the mob."

"But what about our gear?" said Tom. "We've got to get back to the dorm."

"I had it sent down to the station last night. I got the monorail tickets to Atom City last week, and reserved seats on the *Venus Lark* two weeks ago! Come on!"

"Only Roger could handle it so sweetly," sighed Astro. "You know, hotshot, sometimes I think you're useful!"

The three cadets turned and raced across the quadrangle for the nearest slidewalk that would take them to the Academy monorail station and the beginning of their adventure in the jungles of Venus.

CHAPTER 2

"The situation may be serious and it may not, but I don't want to take any chances."

Commander Walters sat in his office, high up in the Tower of Galileo, with department heads from the Academy and Solar Guard. Behind him, an entire wall made of clear crystal offered a breath-taking view of the Academy grounds. Before him, their faces showing their concern over a report Walters had just read, Captain Strong, Major Connel, Dr. Joan Dale, and Professor Sykes waited for the commanding officer of the Academy to continue.

"As you know," said Walters, "the resolution passed by the Council in establishing the Solar Guard specifically states that it shall be the duty of the Solar Guard to investigate and secure evidence for the Solar Alliance Council of any acts by any person, or group of persons, suspected of overt action against the Solar Constitution or the Universal Bill of Rights. Now, based on the report I've just read to you, I would like an opinion from each of you."

"For what purpose, Commander?" asked Joan Dale, the young and pretty astrophysicist.

"To decide whether it would be advisable to have a full and open investigation of this information from the Solar Guard attache on Venus."

"Why waste time talking?" snapped Professor Sykes, the chief of the nucleonics laboratory. "Let's investigate. That report sounds serious."

Major Connel leveled a beady eye on the little gray-haired man.

"Professor Sykes, an investigation is serious. When it is based on a report like this one, it is doubly serious, and needs straight and careful thinking. We don't want to hurt innocent people."

Sykes shifted around in his chair and glared at the burly Solar Guard officer. "Don't try to tell me anything about straight thinking, Connel. I know more about the Solar Constitution and the rights of our citizens than you'll know in ten thousand light years!"

"Yeah?" roared Connel. "And with all your brains you'd probably find out these people are nothing more than a harmless bunch of colonists out on a picnic!"

The professor shot out of his chair and waved an angry finger under Connel's nose. "And that would be a lot more than I'm finding out right now with that contraption of yours!" he shouted.

Connel's face turned red. "So that's how you feel about my invention!" he snapped.

"Yes, that's the way I feel about your invention!" replied Sykes hotly. "I know three cadets that could build that gadget in half the time it's taken you just to figure out the theory!"

Commander Walters, Captain Strong, and Joan Dale were fighting to keep from laughing at the hot exchange between the two veteran spacemen.

"They sound like the *Polaris* unit," Joan whispered to Strong.

Walters stood up. "Gentlemen! Please! We're here to discuss a report on the activities of a secret organization on Venus. I will have to ask you to keep to the subject at hand. Dr. Dale, do you have any comments on the report?" He turned to the young physicist who was choking off a laugh.

"Well, Commander," she began, still smiling, "the report is rather sketchy. I would like to see more information before any real decision is made."

Walters turned to Strong. "Steve?"

"I think Joan has the right idea, sir," he replied. "While the report indicates that a group of people on Venus are meeting regularly and secretly, and wearing some silly uniform, I think we need more information before ordering a full-scale investigation."

"He's right, Commander," Connel broke in. "You just can't walk into an outfit and demand a look at their records, books, and membership index, unless you're pretty sure you'll find something."

"Send a man from here," Strong suggested. "If you use anyone out of the Venus office, he might be recognized."

"Good idea," commented Sykes.

Joan nodded. "Sounds reasonable."

"How do you feel about it, Connel?" asked Walters.

Connel, still furious over Sykes's comment on his spectrum recorder, shot an angry glance at the professor. "I think it's fine," he said bluntly. "Who're you going to send?"

Walters paused before answering. He glanced at Strong and then back at Connel. "What about yourself?"

"Me?"

"Why not?" continued Walters. "You know as much about Venus as anyone, and you have a lot of friends there you can trust. Nose around a while, see what you can learn, unofficially."

"But what about my work on the spectrum recorder?" asked Connel.

"That!" snorted Sykes derisively. "Huh, that can be completed any time you want to listen to some plain facts about—"

"I'll never listen to anything you have to say, you dried-up old neutron chaser!" blasted Connel.

"Of course not," cackled Sykes. "And it's the same bullheaded stubbornness that'll keep you from finishing that recorder."

"I'm sorry, gentlemen," said Walters firmly. "I cannot allow personal discussions to interfere with the problem at hand. How about it, Connel? Will you go to Venus?"

Lou Connel was the oldest line officer in the Solar Guard, having recommended the slightly younger Walters for the post of commandant of Space Academy and the Solar Guard so that he himself could escape a desk job and continue blasting through space where he had devoted his entire life. While Walters had the authority to order him to accept the assignment, Connel knew that if he begged off because of his work on the recorder, Walters would understand and offer the assignment to Strong. He paused and then growled, "When do I blast off?"

Walters smiled and answered, "As soon as we contact Venus headquarters and tell them to expect you."

"Wouldn't it be better to let me go without any fanfare?" mused the burly spaceman. "I could just take a ship and act as though I'm on some kind of special detail. As a matter of fact, Higgleston at the Venusport lab has some information I could use."

"Anything Higgleston could tell you," interjected Sykes, "I can tell you! You're just too stubborn to listen to me."

Connel opened his mouth to blast the professor in return, but he caught a sharp look from Walters and he clamped his lips together tightly.

"I guess that's it, then," said Walters. "Anyone have any other ideas?" He glanced around the room. "Joan? Steve?"

Dr. Dale and Captain Strong shook their heads silently. Strong was disappointed that he had not been given the assignment on Venus. Four weeks at the deserted Academy would seem like living in a graveyard. Walters sensed his feelings, and smiling, he said, "You've been going like a hot rocket this past year, Steve. I have a specific assignment for you."

"Yes, sir!" Strong looked up eagerly.

"I want you to go to the Sweet Water Lakes around New Chicago—"

"Yes, sir?"

"—go to my cabin—"

"Sir?"

"—*and go fishing*!"

Strong grinned. "Thanks, skipper," he said quietly. "I guess I could use a little relaxation. I was almost tempted to join Corbett, Manning, and Astro. They're going hunting in the jungle belt of Venus for a tyrannosaurus!"

"Blast my jets!" roared Connel. "Those boys haven't killed themselves in line of duty, so they go out and tangle with the biggest and most dangerous monster in the entire solar system!"

"Well," said Joan with a smile, "I'll put my money on Astro against a tyranno any time, pound for pound!"

"Hear, hear!" chimed in Sykes, and forgetting his argument with Connel, he turned to the spaceman. "Say, Lou," he said, "when you get to Venus tell Higgy I said to show you that magnetic ionoscope he's rigging up. It might give you some ideas."

"Thanks," replied Connel, also forgetting the hot exchange of a few minutes

before. He stood up. "I'll take the *Polaris*, Commander. She's the fastest ship available with automatic controls for a solo hop."

"She's been stripped of her reactant pile, Major," said Strong. "It'll take a good eighteen hours to soup her up again."

"I'll take care of it," said Connel. "Are there any specific orders, Commander?"

"Use your own judgment, Lou," said Walters. "You know what we want and how far to go to get it. If you learn anything, we'll start a full-scale investigation. If not, we'll forget the whole matter and no one will get hurt."

"And the Solar Guard won't get a reputation of being nosy," added Strong.

Connel nodded. "I'll take care of it." He shook hands all around, coming to Sykes last. "Sorry I lost my temper, Professor," he said gruffly.

"Forget it, Major." Sykes smiled. He really admired the gruff spaceman.

The thick-set senior officer came to smart attention, saluted crisply, turned, and left the office. For the time being, the mysterious trouble on Venus was his responsibility.

* * * * *

"Atom City express leaving on Track Four!"

A metallic voice boomed over the station loud-speaker, as last-minute passengers boarded the long line of gleaming white monorail cars, hanging from a single overhead steel rail. In the open doorway of one of the end cars, a conductor lifted his arm, then paused and waited patiently as three Space Cadets raced down the stairs and along the platform in a headlong dash for the train. They piled inside, almost one on top of the other.

"Thanks for waiting, sir," gasped Tom Corbett.

"Not at all, Cadet," said the conductor. "I couldn't let you waste your leave waiting for another train."

The elderly man flipped a switch in the narrow vestibule and the door closed with a soft hiss of air. He inserted a light key into a near-by socket and twisted it gently, completing a circuit that flashed the "go" light in the engineer's cab. Almost immediately, the monorail train eased forward, suspended on the overhead rail. By the time the last building of Space Academy flashed past, the train was rolling along at full speed on its dash across the plains to Atom City.

The ride to the great metropolis of the North American continent was filled with excitement and anticipation for the three members of the *Polaris* crew. The cars were crowded with cadets on leave, and while there was a lot of joking and horseplay, the few civilian passengers were impressed with the gentlemanly bearing of the young spacemen. Tom and Roger finally settled

down to read the latest magazines supplied by the monorail company. But Astro headed for the dining car where he attracted a great deal of attention by his order of a dozen eggs, followed by two orders of waffles and a full quart of milk. Finally, when the dining-car steward called a halt, because it was closing time, Astro made his way back to Tom and Roger with a plastic bag of French fried potatoes, and the three boys sat, munching them happily. The countryside flashed by in a blur of summer color as the train roared on at a speed of two hundred miles an hour.

A few hours and four bags of potatoes later, Astro yawned and stretched his enormous arms, nearly poking Roger in the eye.

"Hey, ya big ape!" growled Roger. "Watch the eye!"

"You'd never miss it, Manning," said Astro. "Just use your radar."

"Never mind, I like this eye just the way it is."

"We're almost there," called Tom. He pointed out the crystal window and they could see the high peaks of the Rocky Mountain range looming ahead. "We cut through the new tunnel in those mountains and we'll be in Atom City in ten minutes!"

There was a bustle of activity around them as other cadets roused themselves and collected their gear. Once again conversation became animated and excited as the train neared its destination. Flashing into the tunnel, the line of cars began to slow down, rocking gently.

"We'd better go right out to the spaceport," said Tom, pulling his gear out of the recessed rack under his seat. "Our ship blasts off for Venus in less than a half-hour."

"Boy, it'll be a pleasure to ride a spaceship without having to astrogate," said Roger. "I'll just sit back and take it easy. Hope there are some good-looking space dolls aboard."

Tom turned to Astro. "You know, Astro," he said seriously, "it's a good thing we're along to take care of this Romeo. If he were alone, he'd wind up in another kind of hunt."

"I'd like to see how Manning's tactics work on a female dasypus novemcinctur maximus," said Astro with a sly grin.

"A female what?" yelled Roger.

"A giant armadillo, Roger," Tom explained, laughing. "Very big and very mean when they don't like you. Don't forget, everything on Venus grows big because of the lighter gravity."

"Yeah," drawled Roger, looking at Astro. "Big and dumb!"

"What was that again?" bellowed the giant Venusian, reaching for the flip cadet. The next moment, Roger was struggling futilely, feet kicking wildly as Astro held him at arm's length six inches off the floor. The cadets in the car roared with laughter.

"Atom City!" a voice over the intercar communicator boomed and the boys looked out the window to see the towering buildings of Atom City slowly slide by. The train had scarcely reached a full stop when the three cadets piled

out of the door, raced up the slidestairs, and jumped into a jet cab. Fifteen minutes later they marched up to one of the many ticket counters of the Atom City Interplanetary Spaceport.

"Reservations for Cadets Corbett, Manning, and Astro on the *Venus Lark*, please," announced Tom.

The girl behind the counter ran her finger down a passenger manifest, nodded, and then suddenly frowned. She turned back to Tom and said, "I'm sorry, Cadet, but your reservations have been pre-empted by a priority listing."

"Priority!" roared Roger. "But I made those reservations two weeks ago. If there was a change, why didn't you tell us before?"

"I'm sorry, sir," said the girl patiently, "but according to the manifest, the priority call just came in a few hours ago. Someone contacted Space Academy, but you had already left."

"Well, is there another ship for Venusport today?"

"Yes," she replied and picked up another manifest. Glancing at it quickly, she shook her head. "There are no open reservations," she said. "I'm afraid the next flight for Venusport with open reservations isn't for four days."

"Blast my jets!" growled Roger disgustedly. "Four days!" He sat down on his gear and scowled. Astro leaned against the desk and stared gloomily at the floor. At that moment a young man with a thin face and a strained intense look pushed Tom to one side with a curt "Excuse me!" and stepped up to the desk.

"You're holding three reservations on the *Venus Lark*," he spoke quickly. "Priority number four-seven-six, S.D."

Tom, Roger, and Astro looked at him closely. They saw him nervously pay for his tickets and then walk away quickly without another look at the ticket girl.

"Were those our seats, miss?" asked Tom. The girl nodded.

The three cadets stared after the young man who had bumped them off their ship.

"The symbol S.D. on the priority stands for Solar Delegate," said Roger. "Maybe he's a messenger."

The young man was joined by two other men also dressed in Venusian clothing, and after a few words, they all turned and stepped onto the slidewalk rolling out to the giant passenger ship preparing to blast off.

"This is the most rocket-blasting bit of luck in the universe!" growled Roger. "Four days!"

"Cheer up, Roger," said Tom. "We can spend the four days in Atom City. Maybe Liddy Tamal is here. We can follow Captain Strong's suggestion."

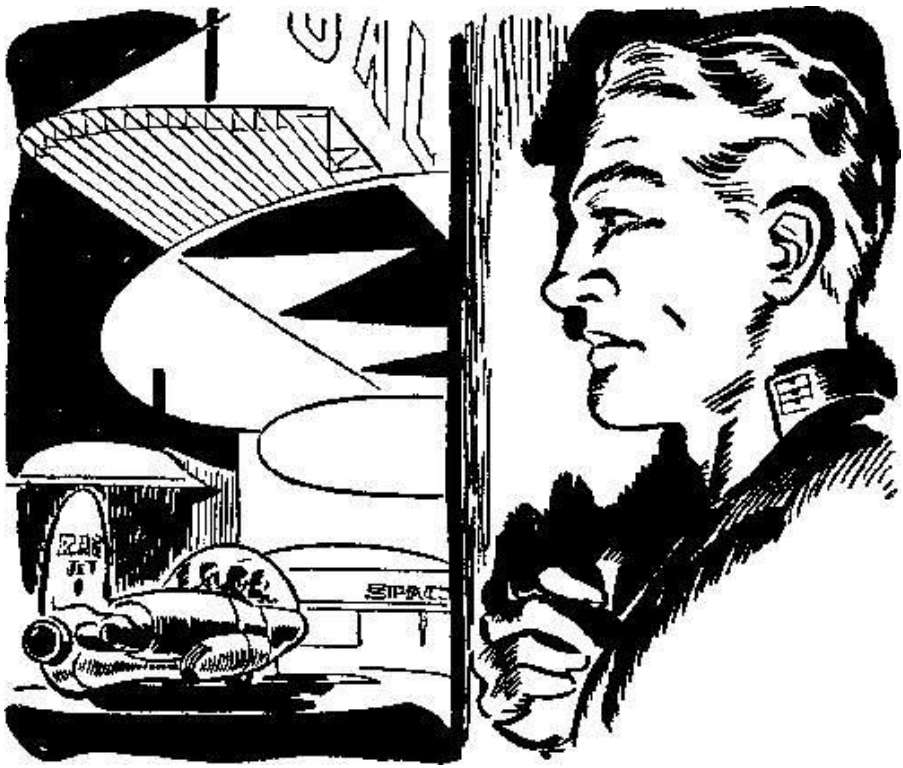
"Even she doesn't make four days delay sound exciting," interrupted Roger. "Come on. We might as well go back to town or we won't even get a room."

He picked up his gear and walked back to the jet cab-stand. Astro and Tom followed the blond-haired cadet glumly.

The stand was empty, but a jet cab was just pulling up to the platform with

a passenger. As the boys walked over to wait at the door, it opened and a familiar figure in a black-and-gold uniform stepped out.

"Captain Strong!"



"Corbett!" exclaimed Strong. "What are you doing here? I thought you were aboard the *Venus Lark*."

"We were bumped out of our reservation by an S.D. priority," said Astro.

"And we can't get out of here for another four days," added Roger glumly.

Strong sympathized. "That's rough, Astro." He looked at the three dour faces and then said, "Would you consider getting a free ride to Venus?"

The three cadets looked up hopefully.

"Major Connel's taking the *Polaris* to Venus to complete some work with Professor Higgleston in the Venus lab," explained Strong. "If you can get back to the Academy before he blasts off, he might give you a ride."

"No, thanks!" said Roger. "I'd rather sit here."

"Wait a minute, Roger," said Tom. "We're on leave, remember? And it's only a short hop to Venus."

"Yeah, hotshot," added Astro. "We'll get to Venus faster than the *Venus Lark*, and save money besides."

"O.K.," said Roger. "I guess I can take him for a little while."

Strong suppressed a smile. Roger's reluctance to go with Connel was well founded. Any cadet within hailing distance of the hard-bitten spaceman was likely to wind up with a bookful of demerits.

"Are you on an assignment, sir?" asked Tom.

"Vacation," said Strong. "Four weeks of fishing at Commander Walters' cabin at Sweet Water Lakes."

"If you pass through New Chicago," said Tom, "you would be welcome to stop in at my house. Mom and Dad would be mighty happy to meet you. And I think Billy, my kid brother, would flip a rocket."

"Thank you, Tom. I might do that if I have time." He looked at his watch. "You three had better hurry. I'd advise taking a jetcopter back to the Academy. You might not make it if you wait for a monorail."

"We'll do that, sir," said Tom.

The three boys threw their gear into the waiting cab and piled in. Strong watched them roar away, frowning in thought. An S.D. priority, the highest priority in space, was used only by special couriers on important missions for one of the delegates. He shrugged it off. "Getting to be as suspicious as an old space hen," he said to himself. "Fishing is what I need. A good fight with a trout instead of a space conspiracy!"

CHAPTER 3

"Blast off—minus—five—four—three—two—one—*zero*!"

As the main drive rockets blasted into life, Tom fell back in his seat before the control panel of the *Polaris* and felt the growing thrust as the giant ship lifted off the ground, accelerating rapidly. He kept his eyes on the teleceiver screen and saw Space Academy fall away behind them. On the power deck Astro lay strapped in his acceleration cushion, his outstretched hand on the emergency booster rocket switch should the main rockets fail before the ship could reach the free fall of space. On the radar bridge Roger watched the far-flung stars become brighter as the rocket ship hurtled through the dulling layers of the atmosphere.

As soon as the ship reached weightless space, Tom flipped on the gravity generators and put the *Polaris* on her course to Venus. Almost immediately the intercom began to blast.

"Now hear this!" Major Connel's voice roared. "Corbett, Manning, and Astro! I don't want any of your space-blasted nonsense on this trip! Get this ship to Venusport in the shortest possible time without burning out the pump bearings. And, Manning—!"

"Yes, sir," replied the blond-haired cadet.

"If I so much as hear one wisecrack between you and that overgrown rocket jockey, Astro, I'll log both of you twenty-five demerits!"

"I understand, sir," acknowledged Roger lazily. "I rather appreciate your relieving me of the necessity of speaking to that space ape!"

Listening to their voices on the control deck, Tom grinned and waited expectantly. He wasn't disappointed.

"Ape!" came a bull-like roar from the power deck. "Why, you skinny moth-eaten piece of space junk—"

"Cadet Astro!"

"Yes, sir?" Astro was suddenly meek.

"If you say one more word, I'll bury you in demerits!"

"But, sir—"

"No *buts*!" roared Connel. "And you, Manning—!"

"Yes, sir?" chimed in Roger innocently.

"Keep your mouth shut!"

"Very well, sir," said Roger.

"Corbett?"

"Yes, sir?"

"I'm putting you in charge of monitoring the intercom. If those two space idiots start jabbering again, call me. That's an order! I'll be in my quarters working." Connel switched off abruptly.

"You hear that, fellows?" said Tom. "Knock it off."

"O.K., Tom," replied Roger, "just keep him out of my sight."

"That goes for me, too," added Astro. "Ape! Just wait till I—"

"Astro!" Tom interrupted sharply.

"O.K., O.K.," groaned the big cadet.

Glancing over the panel once more and satisfying himself that the ship was functioning smoothly, Tom sighed and settled back in his seat, enjoying the temporary peace and solitude. It had been a tough year, filled with intensive study in the quest for an officer's commission in the Solar Guard. Space Academy was the finest school in the world, but it was also the toughest. The young cadet shook his head, remembering a six-weeks' grind he, Roger, and Astro had gone through on a nuclear project. Knowing how to operate an atomic rocket motor was one thing, but understanding what went on inside the reactant pile was something else entirely. Never had the three cadets worked harder, or more closely together. But Astro's thorough, practical knowledge of basic nucleonics, combined with Roger's native wizardry at higher mathematics, and his own understanding of the theory, had enabled them to pull through with a grade of seventy-two, the highest average ever made by a cadet unit not specializing in physics.

As the ship rocketed smoothly through the airless void of space toward the misty planet of Venus, Tom made another quick but thorough check of the panel, and then returned to his reflections on the past term. It had been particularly difficult since they had missed many valuable hours of classroom work and study because of their adventure on the new colony of Roald (as described in *The Space Pioneers*), but they had come through somehow. He shook his head wondering how they had made it. Forty-two units had washed out during the term. Instead of getting easier, the courses of study were getting more difficult all the time, and in his speech on the parade grounds, Commander Walters had promised—

"Emergency!"

Roger's voice over the intercom brought Tom out of his reverie sharply.

"All hands," continued the cadet on the radar bridge hurriedly, "secure your stations and get to the jet-boat deck on the double! Emergency!"

As the sharp clang of the emergency alarm rang out, Tom did not stop to question Roger's sudden order. Neutralizing all controls, he leaped for the hatch leading below. Taking the ladder four steps at a time, Tom saw Major Connel tear out of his quarters. The elder spaceman dived for the ladder himself, not stopping to ask questions. He was automatic in his reliance on the judgment of others. The few seconds spent in talk could mean the difference between life and death in space where you seldom got a second chance.

Tom and Connel arrived on the jet-boat deck to find Astro already

preparing the small space craft for launching. As they struggled into space suits, Roger appeared. In answer to their questioning looks, he explained laconically, "Unidentifiable object attached to ship on fin parallel to steering vanes. Thought we'd better go outside first and examine later."

Connel nodded his mute agreement, and thirty seconds later the tiny jet boat was blasting out of the escape lock into space.

Circling around the ship to the stern, the jet boat, under Major Connel's sure touch, stopped fifty feet from the still glowing, exhaust tubes. He and the three cadets stared out at a small metallic boxlike object attached to the underside of the stabilizer fin.

"What do you suppose it is?" asked Astro.

"I don't know," replied Roger, "but it sure doesn't belong there. That's why I rang the emergency on you."

"You were absolutely right, Manning," asserted Connel. "If it's harmless, we can always get back aboard and nothing's been lost except a little time." He rose from the pilot's seat and stepped toward the hatch. "Come with me, Corbett. We'll have a look. And bring the radiation counter along."

"Aye, aye, sir!"

Tom reached into a near-by locker, and pulling out a small, rectangular box with a round hornlike grid in its face, plunged out of the hatch with Major Connel and blasted across the fifty-foot gap to the stabilizer fin of the *Polaris*.

Connel gestured toward the object on the fin. "See if she's hot, Corbett."

The young cadet pressed a small button on the counter and turned the horn toward the mysterious box. Immediately the needle on the dial above the horn jumped from white to pink and finally red, quivering against the stop pin.

"Hot!" exclaimed Tom. "She almost kicked the pin off!"

"Get off the ship!" roared Connel. "It's a fission bomb with a time fuse!"

Tom dove at the box and tried to pull it off the stabilizer, but Major Connel grabbed him by the arm and wrenched him out into space.

"You space-blasted idiot!" Connel growled. "That thing's liable to go off any second! Get away from here!"

With a mighty shove, the spaceman sent Tom flying out toward the jet boat and then jumped to safety himself. Within seconds he and the young cadet were aboard the jet boat again and, not stopping to answer Astro's or Roger's questions, he jammed his foot down hard on the acceleration lever, sending the tiny ship blasting away from the *Polaris*.

Not until they were two miles away from the stricken rocket ship did Connel bring the craft to a stop. He turned and gazed helplessly at the gleaming hull of the *Polaris*.

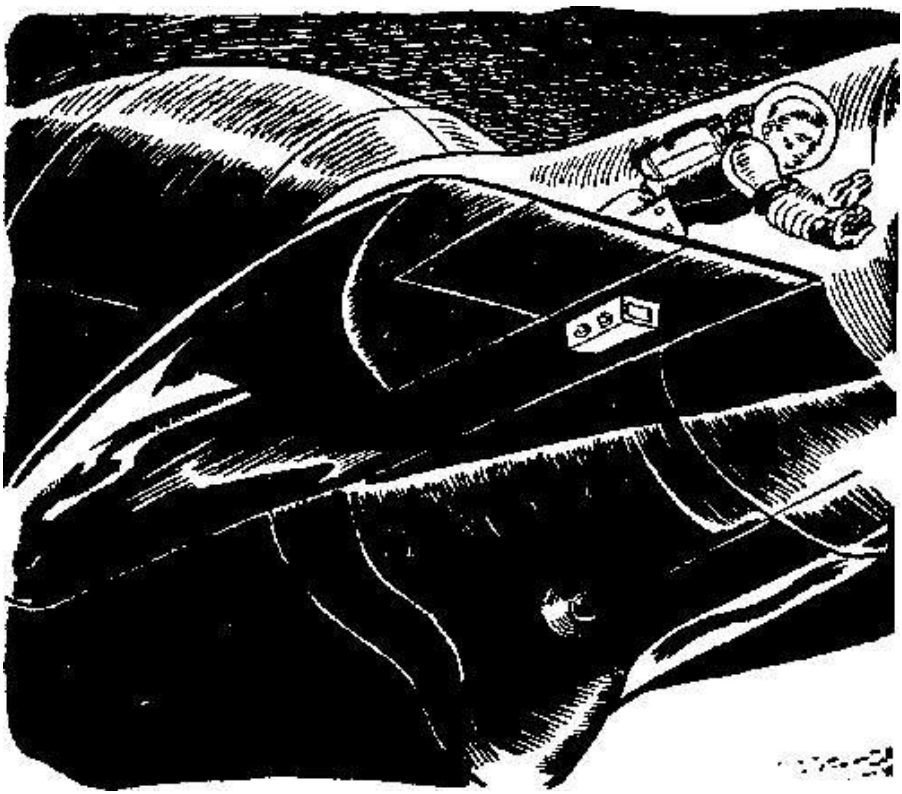
"So they know," he said bitterly. "They're trying to stop me from even reaching Venus."

The three cadets looked at each other and then at the burly spaceman, bewilderment in their eyes.

"What's this all about, sir?" Roger finally asked.

"I'm not at liberty to tell you, Manning," replied Connel. "Though I want to thank you for your quick thinking. How did you happen to discover the bomb?"

"I was sighting on Regulus for a position check and Regulus was dead astern, so when I swung the periscope scanner around, I spotted that thing stuck to the fin. I didn't bother to think about it, I just yelled."



"Glad you did," nodded Connel and turned to stare at the *Polaris* again. "Now I'm afraid we'll just have to wait until that bomb goes off."

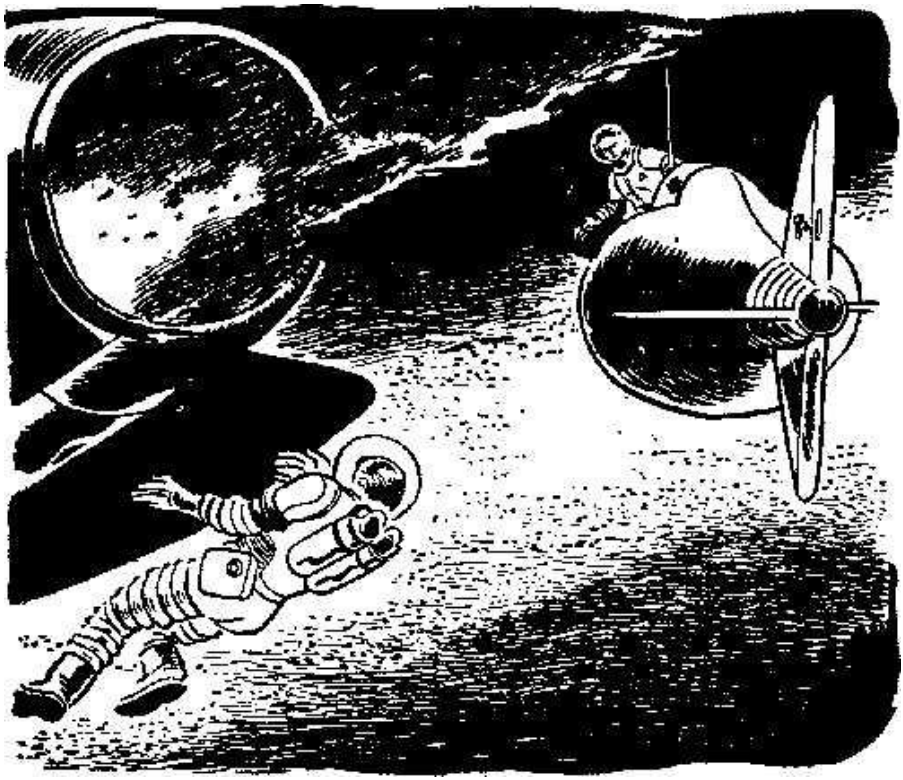
"Isn't there anything we can do?" asked Tom.

"Not a blasted thing," replied Connel grimly. "Thank the universe we shut off all power. If that baby had blown while the reactant was feeding into the firing chambers, we'd have wound up a big splash of nothing."

"This way," commented Astro sourly, "it'll just blast a hole in the side of the ship."

"We might be able to repair that," said Tom hopefully.

"There she goes!" shouted Roger.



Staring out the windshield, they saw a sudden blinding flash of light appear over the stern section of the *Polaris*, a white-hot blaze of incandescence that made them flinch and crouch back.

"By the craters of Luna!" exclaimed Connel.

Before their eyes they saw the stabilizer fin melt and curl under the intense heat of the bomb. There was no sound or shock wave in the vacuum of space, but they all shuddered as though an overwhelming force had swept over them. Within seconds the flash was gone and the *Polaris* was drifting in the cold blackness of space! The only outward damage visible was the twisted stabilizer, but the boys realized that she must be a shambles within.

"I guess we'll have to wait a while before we go back aboard. There might be radioactivity around the hull," Roger remarked.

"I don't think so," said Tom. "The *Polaris* was still coasting when we left her. We cut out the drive rockets, but we didn't brake her. She's probably drifted away from the radioactivity already."

"Corbett's right," said Connel. "A hot cloud would be a hundred miles away by now." He pressed down on the acceleration lever and the jet boat eased

toward the ship. Edging cautiously toward the stern of the spaceship, they saw the blasted section of the fin already cooling in the intense cold of outer space.

"Think I'd better call a Solar Guard patrol ship, sir?" asked Roger.

"Let's wait until we check the damage, Manning," replied Connel.

"Yeah," chimed in Astro grimly, "if I can help it, I'm going to bring the *Polaris* in." He paused and then added, "If I have to carry her on my back."

As soon as a quick check with the radiation counter showed them that the hull was free of radioactivity, Major Connel and the three cadets re-entered the ship.

While the lack of atmosphere outside had dissipated the full force of the blast, the effect on the inside of the ship, where Earth's air pressure was maintained, was devastating. Whole banks of delicate machinery were torn from the walls and scattered over the decks. The precision instruments of the inner hull showed no signs of leakage, and the oxygen-circulating machinery could still function on an auxiliary power hookup.

Completing the quick survey of the ship, Major Connel realized that they would never be able to continue their flight to Venus and instructed Roger to contact the nearest Solar Guard patrol ship to pick them up.

"The *Polaris* will have to be left in space," continued Connel, "and a maintenance crew will be sent out to see if she can be repaired. If they decide it isn't worth the labor, they'll junk her here in space."

The faces of the three cadets fell.

"But there's no real damage on her power deck, sir," said Astro. "And the hull is in good shape, except for the stabilizer fin and some of the stern plates. Why, sometimes a green Earthworm unit will crack a fin on their first touchdown."

"And the radar deck can be patched up easy, sir," spoke up Roger. "With some new tubes and a few rolls of wire I could have her back in shape in no time."

"That goes for the control deck, too!" said Tom doggedly. Then, after a quick glance at his unit mates, he faced Connel squarely. "I think it goes without saying, sir, that we'd appreciate it very much if you could recommend that she be restored instead of junked."

Connel allowed himself a smile in the face of such obvious love for the ship. "You forget that to repair her out in space, the parts have to be hauled from Venus. But I'll see what I can do. Meantime, Roger, see if you can't get that patrol ship to give us a lift to Venusport. Tell the C.O. I'm aboard and on urgent official business."

"Yes, sir," said Roger.

"And," continued the spaceman, noticing the downcast looks of Tom and Astro, "it wouldn't hurt if you two started repairing as much as you can. So when the maintenance crew arrives, they won't find her in such a mess."

"Yes, sir!" chorused the two cadets happily.

Connel returned to his quarters and sat down heavily in the remains of his

bunk, rubbing his chin thoughtfully. Somehow, word had gotten out that he was going to check on the secret organization on Venus and someone had made a bold and desperate attempt to stop him before he could get started. It infuriated him to think that anyone would interrupt official business. As far as Connel was concerned, nothing came before official business. And he was doubly furious at the danger to the three cadets, who had innocently hitched a ride on what was almost a death ship. Someone was going to pay, Connel vowed, clenching his huge fists—and pay dearly.

CHAPTER 4

"*Yeeooowww!*"

Roaring with jubilation and jumping high in the air at every other step, Astro raced out of the gigantic maintenance hangar at the Venusport spaceport and charged at his two unit mates waiting on the concrete apron.

"Everything's O.K.," he yelled, throwing his arms around them. "The *Polaris* is going to be brought in for full repairs! I just saw the audiograph report from the maintenance chief!"

Tom and Roger broke into loud cheers and pounded each other on the back.

"Great Jupiter," gasped Roger, "I feel as though I've been sitting up with a sick friend!"

"Your friend's going to make a full recovery," asserted Astro.

"Did you see Major Connel?" asked Tom.

"Yeah," said Astro. "I think he had a lot to do with it. I saw him talking to the head maintenance officer."

"Well, now that we've sweated the old girl through the crisis," asserted Roger, "how's about us concentrating on our vacation?"

"Great," agreed Tom. "This is your party, Astro. Lead the way."

The three cadets left the spaceport in a jet cab and rode happily into the city of Venusport. As they slid along the superhighway toward the first and largest of the Venusian cities, Astro pointed out the sights. Like slim fingers of glass, the towering Titan crystal buildings of the city arose before them, reaching above the misty atmosphere to catch the sunlight.

"Where do we get our safari gear, Astro?" asked Roger.

"In the secondhand shops along Spaceman's Row," replied the big Venusian. "We can get good equipment down there at half the price."

The cab turned abruptly off the main highway and began twisting through a section of the city shunned by the average Venusian citizen. Spaceman's Row had a long and unsavory history. For ten square blocks it was the hide-out and refuge of the underworld of space. The grimy stores and shadowy buildings supplied the needs of the countless shadowy figures who lived beyond the law and moved as silently as ghosts.

Leaving the jet cab, the three cadets walked along the streets, past the cheaply decorated store fronts and dingy hallways, until they finally came to a corner shop showing the universal symbol of the pawnshop: three golden balls. Tom and Roger looked at Astro who nodded, and they stepped inside.

The interior of the shop was filthy. Rusted and worn space gear was piled in

heaps along the walls and on dusty counters. An old-fashioned multiple neon light fixture cast an eerie blue glow over everything. Roger grimaced as he looked around. "Are you sure we're in the right place, Astro?"

Tom winked. Roger had a reputation for being fastidious.

"This is it," nodded Astro. "I know the old geezer that runs this place. Nice guy. Name's Spike." He turned to the back of the shop and bawled, "Hey, Spike! Customers!"

Out of the gloomy darkness a figure emerged slowly. "Yeah?" The man stepped out into the pale light. He dragged one foot as he walked. "Whaddaya want?"

Astro looked puzzled. "Where's Spike?" he asked. "Doesn't Spike Freyer own this place?"

"He died a couple months ago. I bought him out just before." The crippled man eyed the three cadets warily. "Wanna buy something?"

Astro looked shocked. "Spike, dead? What happened?"

"How should I know," snarled the little man. "I bought him out and he died a few weeks later. Now, you wanna buy something or not?"

"We're looking for jungle gear," said Tom, puzzled by the man's strange belligerence.

"Jungle gear?" the man's eyes widened. "Going hunting?"

"Yeah," supplied Roger. "We need complete outfits for three. But you don't look like you have them. Let's go, fellas." He turned toward the door, anxious to get out into the open air.

"Just a minute! Just a minute, Cadet," said the proprietor eagerly. "I've got some fine hunting gear here! A little used, but you won't mind that! Save you at least half on anything you'd buy up in the city." He started toward the back of the store and then paused. "Where you going hunting?"

"Why?" asked Tom.

"So I'll know what kind of gear you need. Light—heavy—kind of guns—"

"Jungle belt in the Eastern Hemisphere," supplied Astro.

"Big game?" asked the man.

"Yeah. Tyrannosaurus."

"Tyranno, eh?" nodded the little man. "Well, now, you'll need heavy stuff for that. I'd say at least three heavy-duty paralo-ray pistols for side arms, and three shock rifles. Then you'll need camping equipment, synthetics, and all the rest." He counted the items off on grubby little fingers.

"Let's take a look at the blasters," said Tom.

"Right this way," said the man. He turned and limped to the rear of the shop, followed by the three cadets. Opening a large cabinet, he pulled out a heavy rifle, a shock gun that could knock out any living thing at a range of a thousand yards, and stun the largest animal at twice the distance.

"This blaster will knock the scales off any tyranno that you hit," he said, handing the weapon over to Tom who expertly broke it down and examined it.

As Tom checked the gun, the proprietor turned to the other cadets casually.

"Why would three cadets want to go into that section of the jungle belt?"

"We just told you," said Roger. "We're hunting tyranno."

"Uh, yes, of course." He turned away and pulled three heavy-duty paralo-ray pistols out of the cabinet. "Now these ray guns are the finest money can buy. Standard Solar Guard equipment…"

"Where did you get them?" demanded Roger sharply.

"Well, you know how it is, Cadet." The man laughed. "One way or another, we get a lot of gear. A man is discharged from the Solar Guard and he can keep his equipment, then he gets hard up for a few credits and so he comes to me."

Tom closed the shock rifle and turned to Astro. "This gun is clean enough. Think it can stop a tyranno, Astro?"

"Sure," said the big cadet confidently. "Easy."

"O.K.," announced Tom, turning back to the proprietor. "Give us the rest of the stuff."

"And watch your addition when you make out the bill," said Roger blandly. "We can add, too."

A half-hour later the three cadets stood in front of the shop with all the gear they would need and hailed a jet cab. They stowed their newly purchased equipment inside and started to climb in as Astro announced, "Spaceport, driver!"

"Huh?" Roger paused. "Why back there?"

"How do you think we're going to get to the jungle belt?" asked Astro. "Walk?"

"Well, no, but—"

"We have to rent a jet launch," said Astro. "Or try to buy a used one that we can sell back again. Pile in, now!"

As the cab shot away from the curb with the three cadets, the proprietor of the pawnshop stepped out of the doorway and watched it disappear, a puzzled frown on his face. Quickly he re-entered the shop, and limping to a small locker in the rear, opened it, exposing the screen of a teleceiver. He flipped on the switch, tuned it carefully, and in a moment the screen glowed to life.

"Hello, this is the shop," called the little man. "Lemme speak to Lactu! This is urgent!" As he waited he stared out through the dirty window to the street where the cadets had been a moment before and he smiled thinly.

* * * * *

Arriving at the spaceport, Astro led his unit mates to a privately owned repair hangar and dry dock where wealthier Venusian citizens kept their space yachts, jet-powered craft, and small runabouts. Astro opened the door to the office with a bang, and a young girl, operating an automatic typewriter, looked up.

"Astro!" she cried. "How wonderful to see you!"

"Hiya, Agnes," replied Astro shyly. The big cadet was well known and liked at the repair hangar. His early life had been spent in and around the spaceport. First just listening to the stories of the older spacemen and running errands for them, then lending a helping hand wherever he could, and finally becoming a rigger and mechanic. This all preceded his years as an enlisted spaceman and his eventual appointment to Space Academy. His big heart and honesty, his wild enthusiasm for any kind of rocket power had won him many friends.

"Is Mr. Keene around?" asked Astro.

"He's with a customer right now," replied Agnes. "He'll be out in a minute." Her eyes swept past Astro to Tom and Roger who were standing in the doorway. "Who are your friends?"

"Oh, excuse me!" mumbled Astro. "These are my unit mates, Cadet Corbett and Cadet Manning."

Before Tom could acknowledge the introduction, Roger stepped in front of him and sat on the edge of the desk. Looking into her eyes, he announced, "Tell you what, Astro, you and Tom go hunting. I've found all I could ever want to find right here. Tell me, my little space pet, are you engaged for dinner tonight?"

Agnes looked back into his eyes innocently. "As a matter of fact I am." Then, grinning mischievously, she added, "But don't let that stop you."

"I wouldn't let a tyranno stop me," bragged the blond-haired cadet. "Tell me who your previous engagement is with and I'll get rid of him in nothing flat!"

The girl giggled and looked past Roger. He turned to see a tall, solidly built man in coveralls scowling at him.

"Friend of yours, Agnes?" the newcomer asked.

"Friend of Astro's, Roy," said Agnes. "Cadet Manning, I'd like you to meet my brother, Roy Keene."

Roger jumped up and stuck out his hand. "Oh—er—ah—how do you do, sir?"

"Quite well, Cadet," replied Keene gruffly, but with a slight twinkle in his eye. He turned to Astro and gripped the big cadet's hand solidly. "Well, Astro, it's good to see you. How's everything going at Space Academy?"

"Swell, sir," replied Astro, and after introducing Tom and bringing Keene up to date on his life history, he explained the purpose of their visit. "We're on summer leave, sir, and we'd like to go hunting tyrannosaurus. But what we need most right now is a jet boat. We'd like to rent one, or if you've got something cheap, we'd buy it."

Keene rubbed his chin. "I'm afraid I can't help you, Astro. There's nothing available in the shop right now. I'd lend you my Beetle, but one of the boys has it out on a three-day repair job."

Astro's face fell. "Oh, that's too bad." He turned to Tom and Roger. "Well, we could drop in from a stratosphere cruiser and then work our way back to the nearest colony in three or four weeks."

"Wait a minute!" exclaimed Keene. "I've got an idea." He turned and called to a man standing on the other side of the hangar, studying a radar scanner for private yachts. "Hey, Rex, mind coming over here a minute."

The man walked over. He was in his late thirties, tall and broad-shouldered, his hair was almost snow-white, contrasting sharply with his deeply tanned and handsome features.

"This is the *Polaris* unit from Space Academy, Rex," said Keene. "Boys, meet Rex Sinclair." After the introductions were completed, Keene explained the cadets' situation. Sinclair broke into a smile. "It would be a pleasure to

have you three boys as my guests!"

"Guests!" exclaimed Tom.

Sinclair nodded. "I have a plantation right on the edge of the jungle belt. Things get pretty dull down there in the middle of the summer. I'd be honored if you'd use my home as a base of operations while you hunt for your tyrannosaurus. As a matter of fact, you'd be helping me out. Those brutes destroy a lot of my crops and we have to go after them every three or four years."

"Well, thanks," said Tom, "but we wouldn't want to impose. We'd be happy to pay you—"

Sinclair held up his hand. "Wouldn't think of it. Do you have your gear?"

"Yes, sir," replied Astro. "Arms, synthetics, the works. Everything but transportation."

"Well, that's sitting out on the spaceport. That black space yacht on Ramp Three." Sinclair smiled. "Get your gear aboard and make yourselves at home. I'll be ready to blast off in half an hour."

Astro turned to Keene. "Thanks a lot, sir. It was swell of you to set us up this way."

Keene slapped him on the shoulder. "Go on. Have a good time."

Shaking hands all around and saying quick good-bys, the three boys hurried out to stow their gear aboard Sinclair's luxurious space yacht. While Roger and Tom relaxed in the comfortable main cabin, Astro hurried below to inspect the power deck.

Roger laughed as the big cadet disappeared down the hatch. "That guy would rather play with a rocket tube than do anything else in the universe!"

"Yes," said Tom. "He's a real lucky guy."

"How?"

"Ever meet anyone that didn't love that big hick?"

"Nope," said Roger with a sly grin. "And that goes for me too! But don't you ever tell him!"

* * * * *

Major Connel had been waiting to see the Solar Alliance Delegate from Venus for three hours. And Major Connel didn't like to wait for anyone or anything. He had read every magazine in the lavish outer office atop the Solar Guard Building in downtown Venusport, drunk ten glasses of water, and was now wearing a path in the rug as he paced back and forth in front of the secretary who watched him shyly.

The buzzer on the desk finally broke the silence and the girl answered quickly as Connel stopped and glared at her expectantly. She listened for a

second, then replacing the receiver, turned to the seething Solar Guard officer and smiled sweetly. "Delegate James will see you now, Major."

"Thank you," said Connel gruffly, trying hard not to take his impatience out on the pretty girl. He stepped toward an apparently solid wall that suddenly slid back as he passed a light beam and entered the spacious office of E. Philips James, Venusian Delegate to the Grand Council of the Solar Alliance.

E. Philips James was a small man, with small hands that were moving nervously all the time. His head was a little too large for his narrow body that was clothed in the latest fashion, and his tiny black mustache was carefully trimmed. As Connel stalked into the room, James bounced out of his chair to meet him, smiling warmly.

"Major Connel! How delightful to see you again," he said, extending a perfumed hand.

"You could have seen me a lot sooner," growled Connel. "I've been sitting outside for over three hours!"

James lifted one eyebrow and sat down without making any comment. A true diplomat, E. Philips James never said anything unless it was absolutely necessary. And when he spoke, he never really said very much. He sat back and waited patiently for Connel to cool off and get to the point of his call.

In typical fashion, Connel jumped to it without any idle conversational prologue. "I'm here on a security assignment. I need confidential information."

"Just one moment, Major," said James. He flipped open his desk intercom and called to his secretary outside. "Record this conversation, please."

"Record!" roared Connel. "I just told you this was secret!"

"It will be secret, Major," assured James softly. "The record will go into the confidential files of the Alliance for future reference. A precaution, Major. Standard procedure. Please go on."

Connel hesitated, and then, shrugging his shoulders, continued, "I want to know everything you know about an organization here on Venus known as the Venusian Nationalists."

James's expression changed slightly. "Specific information, Major? Or just random bits of gossip?"

"No rocket wash, Mr. James. Information. Everything you know!"

"I don't know why you've come to me," replied James, visibly annoyed at the directness of the rough spaceman. "I know really very little."

"I'm working under direct orders of Commander Walters," said Connel grimly, "who is also a delegate to the Solar Council. His position as head of the Solar Guard is equal to yours in every respect. This request comes from his office, not out of my personal curiosity."

"Ah, yes, of course, Major," replied James. "Of course."

The delegate rose and walked over to the window, seemingly trying to collect his thoughts. After a moment he turned back. "Major, the organization you speak of is, so far as I know, an innocent group of Venusian farmers and frontier people who meet regularly to exchange information about crops,

prices, and the latest farming methods. You see, Major"—James's voice took on a slightly singsong tone, as though he were making a speech—"Venus is a young planet, a vast new world, with Venusport the only large metropolis and cultural center. Out in the wilderness, there are great tracts of cultivated land that supply food to the planets of the Solar Alliance and her satellites. We are becoming the breadbasket of the universe, you might say." James smiled at Connel, who did not return the smile.

"Great distances separate these plantations," continued James. "Life is hard and lonely for the Venusian plantation owner. The Venusian Nationalists are, to my knowledge, no more than a group of landowners who have gotten together and formed a club, a fraternity. It's true they speak the Venusian dialect, these groups have taken names from the old Venusian explorers, but I hardly think it is worth while investigating."

"Do they have a headquarters?" Connel asked. "A central meeting place?"

"So far as I know, they don't. But Al Sharkey, the owner of the largest plantation on Venus, is the president of the organization. He's a very amiable fellow. Why don't you talk to him?"

"Al Sharkey, eh?" Connel made a mental note of the name.

"And there's Rex Sinclair, a rather stubborn individualist who wrote to me recently complaining that he was being pressured into joining the organization."

"What kind of pressure?" asked Connel sharply.

James held up his hand. "Don't get me wrong, Major. There was no violence." The delegate suddenly became very businesslike. "I'm afraid that's all the information I can give you, Major." He offered his hand. "So nice to see you again. Please don't hesitate to call on me again for any assistance you feel we can give you."

"Thank you, Mr. James," said Connel gruffly and left the office, a frown creasing his forehead. Being a straightforward person himself, Major Connel could not understand why anyone would hesitate about answering a direct question. He didn't for a moment consider the delegate anything but an intelligent man. It was the rocket wash that went with being a diplomat that annoyed the ramrod spaceman. He shrugged it off. Perhaps he would find out something from Al Sharkey or the other plantation owner, Rex Sinclair.

When he crossed the slidewalk and waited at the curb for a jet cab, Connel suddenly paused and looked around. He felt a strange excitement in the air—a kind of tension. The faces of passing pedestrians seemed strained, intense, their eyes were glowing, as though they all were in on some huge secret. He saw groups of men and women sitting in open sidewalk cafes, leaning over the table to talk to each other, their voices low and guarded. Connel shivered. He didn't like it. Something was happening on Venus and he had to find out what it was before it was too late.

CHAPTER 5

"Wow!" exclaimed Roger.

"Jumping Jupiter!" commented Tom.

"Blast my jets!" roared Astro.

Rex Sinclair smiled as he maneuvered the sleek black space yacht in a tight circle a thousand feet above the Titan crystal roof of his luxurious home in the heart of the wild Venusian jungle.

"She's built out of Venusian teak," said Sinclair. "Everything but the roof. I wanted to keep the feeling of the jungle around me, so I used the trees right out of the jungle there." He pointed to the sea of dense tropical growth that surrounded the house and cleared land.

The ship nosed up for a thousand yards and then eased back, smoothly braked, to a concrete ramp a thousand yards from the house. The touchdown was as gentle as a falling leaf, and when Sinclair opened the air lock, a tall man in worn but clean fatigues was waiting for them.

"Howdy, Mr. Sinclair," he called, a smile on his lined, weather-beaten face. "Have a good trip?"

"Fine trip, George," replied Sinclair, climbing out of the ship. "I want you to meet some friends of mine. Space Cadets Tom Corbett, Roger Manning, and Astro. They're going to stay with us during their summer leave while they hunt for tyranno. Boys, this is my foreman, George Hill."

The boys shook hands with the thick-set, muscular man, who smiled broadly. "Glad to meet you, boys. Always wanted to talk to someone from the Academy. Wanted to go there myself but couldn't pass the physical. Bad eyes."

Reaching into the ship, he began lifting out their equipment. "You chaps go on up to the house now," he said. "I'll take care of your gear."

With Sinclair leading the way, the boys slowly walked up a flagstone path toward the house, and they had their first chance to see a Venusian plantation home at close range.

The Sinclair house stood in the middle of a clearing more than five thousand yards square. At the edges, like a solid wall of green vegetation, the Venusian jungle rose more than two hundred feet. It was noon and the heat was stifling. They were twenty-six million miles closer to the sun, and on the equator of the misty planet. While Astro, George, and Sinclair didn't seem to mind the temperature, Tom and Roger were finding it unbearable.

"Can you imagine what it'll be like in the house with that crystal roof!"

whispered Roger.

"I'll bet," replied Tom. "But as soon as the sun drops out of the zenith, it should cool off some."

When the group stepped up onto the porch, two house servants met them and took their gear. Then Sinclair and the foreman ushered the cadets inside. They were surprised to feel a distinct drop in temperature.

"Your cooling unit must be pretty large, Mr. Sinclair," commented Tom, looking up at the crystal roof where the sun was clearly visible.

Sinclair smiled. "That's special crystal, mined on Titan at a depth of ten thousand feet. It's tinted, and shuts out the heat and glare of the sun."

George then left to lay out their gear for their first hunt the next morning, and Sinclair took them on a tour of the house. They walked through long corridors looking into all the rooms, eventually winding up in the kitchen, and the three boys marveled at the simplicity yet absolute perfection of the place. Every modern convenience was at hand for the occupant's comfort. When the sun had dropped a little, they all put on sunglasses with glareproof eye shields and walked around the plantation. Sinclair showed them his prize-winning stock and the vast fields of crops. Aside from the main house, there were only four other buildings in the clearing. They visited the smallest, a cowshed.

"Where do your field hands live, Mr. Sinclair?" asked Tom, as they walked through the modern, spotless, milking room.

"I don't have any," replied the planter. "Do most of the work with machinery, and George and the houseboys do what has to be done by hand."

As they left the shed and started back toward the main house they came abreast of a small wooden structure. Thinking they were headed there, Roger started to open the door.

"Close that door!" snapped Sinclair. Roger jerked back. Astro and Tom looked at the planter, startled by the sharpness in his voice.

Sinclair smiled and explained, "We keep some experiments on different kinds of plants in there at special low temperatures. You might have let in hot air and ruined something."

"I'm sorry, sir," said Roger. "I didn't know."

"Forget it," replied the planter. "Well, let's get back to the house. We're having an early dinner. You boys have to get started at four o'clock in the morning."

"Four o'clock!" exclaimed Roger.

"Why?" asked Tom.

"We have to go deep into the thicket," Astro explained, using the local term for the jungle, "so that at high noon we can make camp and take a break. You can't move out there at noon. It gets so hot you'd fall on your face after fifteen minutes of fighting the creepers."

"Everything stops at noon," added Sinclair. "Even the tyrannosaurus. You have to do your traveling in the cool of the day, early and late. Six hours or so will take you far enough away from the plantation to find tracks, if there are

any."

"Tell me, Mr. Sinclair," asked Roger suddenly, "is this the whole plantation?" He spread his hands in a wide arc, taking in the clearing to the edge of the jungle.

Sinclair grinned. "Roger, it'd take a man two weeks to go from one corner of my property to another. This is just where I live. Three years ago I had five hundred square miles under cultivation."

Back in the house, they found George setting the table on the porch and his wife busy in the kitchen. Mrs. Hill was a stout woman, with a pleasant face and a ready smile. With very little ceremony, the cadets, Sinclair, George, and his wife sat down to eat. The food was simple fare, but the sure touch of Mrs. Hill's cooking and the free use of delicate Venusian jungle spices added exotic flavor, new but immensely satisfying to the three hungry boys, a satisfaction they demonstrated by cleaning their plates quickly and coming back for second helpings. Astro, of course, was not happy until he had polished off his fourth round. Mrs. Hill beamed with pleasure at their unspoken compliment to her cooking.

After the meal, Mrs. Hill stacked the dishes and put them into a small carrier concealed in the wall. Pressing a button, near the opening, she explained, "That dingus takes them to the sink, washes them, dries them, and puts everything in its right place. That's the kind of modern living I like!"

As the sun dropped behind the wall of the jungle and the sky darkened, they all relaxed. Sinclair and George smoked contentedly, Mrs. Hill brought out some needle point, and the three cadets rested in comfortable contour chairs. They chatted idly, stopping only to listen to the wild calls of birds and animals out in the jungle as George, or Sinclair, identified them all. George told of his experiences on tyrannosaurus hunts, and Astro described his method of hunting as a boy.

"I was a big kid," he explained. "And since the only way of earning a living was by working, I found I could combine business with pleasure. I used to hitch rides over the belt and parachute in to hunt for baby tyrannos." He grinned and added, "When I think back, I wonder how I ever stayed in one piece."

"Land sakes!" exclaimed Mrs. Hill. "It's a wonder you weren't eaten alive! Those tyrannos are horrible things."

"I was almost a meal once," confessed Astro sheepishly, and at the urging of the others he described the incident that had cured him of hunting alone in the jungles of Venus with only a low-powered shock blaster.

"If I didn't get it at the base of the brain where the nerve centers aren't so well protected with the first shot, I was in trouble," he said. "I took a lot of chances, but was careful not to tangle with a mama or papa tyrannosaurus. I'd stalk the young ones. I'd wait for him to feed and then let him have it. If I was lucky, I'd get him with one shot, but most of the time I'd just stun him and have to finish him off with a second blast. Then I'd skin him, take the hams

and shoulders, and get out of there fast before the wild dogs got wind of the blood. I'd usually hunt pretty close to a settlement where I could get the meat frozen. After that, I'd just have to call a couple of the big restaurants in Venusport and get the best price. I used to make as much as fifty credits on one kill."

"How would you get the meat to Venusport?" asked Roger, who, for all his braggadocio, was awed by his unit mate's calm bravery and skill as a hunter.

"The restaurant that bought it would send a jet boat out for it and I'd ride back with it. After a while the restaurant owners got to know me and would give me regular orders. I was trying to fill a special order on that last hunt."

"What happened?" asked Tom, equally impressed with Astro's life as a boy hunter.

"I had just about finished hunting in a section near a little settlement on the other side of Venus," began the big cadet, "but I thought there might be one more five-hundred-pound baby around, so I dropped in." Astro paused and grinned. "I didn't find a baby, I found his mother! She must have weighed twenty-five or thirty tons. Biggest tyranno I've ever seen. She spotted me the same time I saw her and I didn't even stop to fire. I never could have dented her hide. I started running and she came after me. I made it to a cave and went as far back inside as I could. She stuck her head in after me, and by the craters of Luna, she was only about three feet away, with me backed up against a wall. She tried to get farther in, opened her mouth, and snapped and roared like twenty rocket cruisers going off at once."

"She tried to get farther into the cave."

Tom gulped and Roger's eyes widened.

"I figured there was only one thing to do," continued Astro. "Use the blaster, even though it couldn't do much damage. I let her have one right in the eye!" Astro shook his head and laughed. "You should have seen her pull her head out of that cave! I couldn't sleep for months after that. I used to dream that she was sticking her head in my window, always getting closer."

"Did the blaster do any damage at all?" asked Sinclair.

"Oh, yes, sir," said Astro. "I was close enough for the heat charge from the

muzzle to get her on the side of the head. Nothing fatal, but she's probably still out there in the jungle more ugly than ever with half a face."

The group fell silent, each thinking of how he would have reacted under similar conditions; each silently thankful that it hadn't happened to him. Finally Mrs. Hill rose and said good night, and George excused himself to take a last look at the stock. Remembering their early call for the next morning, the cadets said good night to Sinclair and retired to their comfortable rooms. In bed at last, each boy stretched full length on his bed and in no time was sound asleep.

It was still dark, an hour and a half before the sun would burst over the top of the jungle, when Sinclair went to the cadets' room to rouse them. He found them already up and dressed in their jungle garb. Each boy was wearing skin-tight trousers and jerseys made of double strength space-suit cloth and colored a dark moldy green. A hunter dressed in this manner and standing still could not be seen at twenty paces. The snug fit of the suit was protection against thorns and snags that could find no hold on the hard, smooth-surfaced material.

After a hearty breakfast the three cadets collected their gear, the paralo-ray pistols, the shock rifles, and the small shoulder packs of synthetic food and camping equipment. Each boy also carried a two-foot jungle knife with a compass inlaid in the handle. A helmet of clear plastic with a small mesh-covered opening in the face covered each boy's head. Dressed as they were, they could walk through the worst part of the jungles and not get so much as a scratch.

"Well," commented Sinclair, looking them over, "I guess you boys have everything. I'd hate to be the tyranno that crosses your path!"

The boys grinned. "Thanks for everything, sir," said Tom. "You've been a lot of help."

"Think nothing of it, Tom. Just bring back a pair of tyranno scalps!"

"Where are Mr. and Mrs. Hill?" asked Astro. "We'd like to say good-by to them."

"They left before you got up," replied Sinclair. "They're taking a few days off for a visit to Venusport."

The boys pulled on their jungle boots. Knee-length and paper-thin, they were nonetheless unpenetrable even if the boys should step on one of the needle-sharp ground thorns.

They waved a last good-by to their host, standing on the steps of the big house, and moved across the clearing to the edge of the jungle wall.

As the cadets approached the thick tangle of vines, the calls and rustling noises from the many crawling things hidden in the forbidding thicket slowly died down. They walked along the edge of the tangle of jungle creepers until they found an opening and stepped through.

They were completely surrounded by the jungle

After walking only ten feet they were completely surrounded by the jungle and could not even see the clearing they had just left. It was dark, the network of vines, the thick tree trunks and rank growing vegetation shutting out the sun, leaving the interior of the jungle strangely plunged in gloom. Astro moved ahead, followed by Roger, with Tom bringing up the rear. They followed the path they had entered, as far as it went, and then began cutting their way through the underbrush, stopping only to cut notches in the trees to

mark their passage.

Their long-bladed knives slicing through vines and brush easily, Tom, Roger, and Astro hacked their way deeper and deeper into the mysterious and suffocating green world.

CHAPTER 6

"I guess that's the Sharkey place over there," mumbled Major Connel to himself, banking his jet launch over the green jungles and pointing the speedy little craft's nose toward the clearing in the distance. The Solar Guard officer wrenched the scout around violently in his approach. He was still boiling over the Venusian Delegate's indifference toward his mission.

The launch skimmed the jungle treetops and glided to a perfect stop near the largest of a group of farm buildings. Cutting the motors, Connel sat and waited for someone to appear. He sat there for ten minutes but no one came out to greet him. Finally he climbed out of the launch and stood by the hatch, peering intently at the buildings around him, his eyes squinting against the glare of the fiery sun overhead. The plantation seemed deserted. Reaching back into the launch and pulling out a paralo-ray gun, he strapped its reassuring bulk to his side and stepped toward the building that was obviously the main house. Nothing else moved in the hot noon sun.

As he strode purposefully toward the house, eyes alert for any sign of life, he thought for a moment everyone might be taking a midday nap. Many of the Venusian colonists adapted the age-old custom of the tropics to escape the intense heat of midday. But he dismissed the thought immediately, realizing that his approach in the jet would have awakened the deepest of sleepers.

Entering the house, he stopped in the spacious front hall and called:

"Hello! Anybody home? Halloo!"

The only answer was the echo of his own voice, vibrating through the large rooms.

"Funny," muttered the spaceman. "Why is this place deserted?"

He walked slowly through the house, opening doors and looking into all the rooms, searching the whole place thoroughly before returning to the clearing. Going to the nearest of the outbuildings, he opened one of the wide doors and stared into the gloomy interior. With his experienced eye he saw immediately that the building had been used to house a large jet craft. There was the slightly pungent odor of jet fuel, and on the floor the tire marks of a dolly used to roll the craft out to the launching strip. He followed the tracks outside and around to the side of the building where he saw the dolly. It was empty.

Shaking his head grimly, Connel made a quick tour of the remaining buildings. They were all deserted but the last one, which seemed to be built a little more sturdily than the others. Unlike the others, it was locked. He looked for a window and discovered that the walls were solid. There were no openings except the locked door. He hesitated in front of the door, looking down at the ground for a sign of what might have been stored in the building.

The surrounding area revealed no tracks. He pulled out a thick-bladed pocketknife and stepped to the lock, then suddenly stopped and grinned.

"Great," he said to himself. "A Solar Guard officer about to break into private property without a warrant. Fine thing to have known back at the Academy!"

He turned abruptly and strode back to the scout. Climbing into the craft, he picked up the audioscriber microphone and recorded a brief message. Removing the threadlike tape from the machine, he returned to the house and left it on the spool of the audioscribe-replay machine near the front door.

A few moments later the eerie silence of the Sharkey plantation was once again shattered by the hissing roar of jets as the launch took off and climbed rapidly over the jungle. Air-borne, Connel glanced briefly at a chart, changed course, and sent the launch hurtling at full speed across the jungle toward the Sinclair plantation.

* * * * *

"How far do you think we've come?" asked Tom sleepily.

Astro yawned and stretched before answering. "I'd say about fifteen miles, Tom."

"Seems more like a hundred and fifteen," moaned Roger who was sprawled on the ground. "I ache all over. Start at the top of my head and work down, and you won't find one square inch that isn't sore."

Tom grinned. He was tired himself, but the three-day march through the jungle had been three of the most exciting days in his life. Coming from a large city where he had to travel two hours by monorail to get to open green country, the curly-haired cadet found this passage through the wildest jungle in the solar system new and fascinating. He had seen flowers of every color in the spectrum, some as large as himself; giant shrubs with leaves so fine that they looked like spider webs; Venusian teakwood trees fifty to a hundred feet thick at the base with some twisted into strange spirals as their trunks, shaded by another larger tree, sought a clear avenue to the sun. There were bushes that grew thorns three inches long, hard as steel and thin as needles; jungle creepers, vines two and three feet thick, twisting around tree trunks and strangling them. He saw animals too, all double the size of anything on Earth because of the lighter Venusian gravity; insects the size of rats, rats the size of dogs, and wild dogs the size of ponies. Up in the trees, small anthropoids, cousins to the monkeys of Earth, scampered from limb to limb, screaming at the invaders of their jungle home. Smooth-furred animals that looked like deer, their horns curling overhead, scampered about the cadets like puppies, nuzzling them, nipping at their heels playfully, and barking as though in

laughter when Astro roared at them for getting in the way.

But there were dangerous creatures in the jungle too; the beautiful but deadly poisonous brush snakes that lurked unseen in the varicolored foliage, striking out at anything that passed; animals resembling chipmunks with enlarged razor-sharp fangs, whose craving for raw meat was so great that they would attack an animal ten times its size; lizards the size of elephants with scales like armor plate that rooted in swampy ground for their food, but which would attack any intruder, charging with amazing speed, their three horns poised; and, finally, there were the monsters of Venus—giant beasts whose weights were measured in tons, ruled over by the most horrible of them all—the tyrannosaurus.

Fights to death between the jungle creatures were common sights for the boys during their march. They saw a weird soundless fight between a forty-foot snake and a giant vulture with talons nearly two feet across and a beak resembling a mammoth nutcracker. The vulture won, methodically cutting the reptile's body into sections, its beak slicing through the snake as easily as a knife going through butter.

More than once Astro spotted a dangerous creature, and telling Roger and Tom to stand back, he would level his shock rifle and blast it.

So far they had seen nothing of their prey—the tyrannosaurus. Tracks around the steaming swamps were as close as they had come. Once, late in the evening of the second day they caught a fleeting glimpse of a plant-eating brontosaurus lumbering through the brush.

All three of the boys had found it difficult to sleep in the jungle. The first two nights they had taken turns at staying on guard and tending the campfire. Nothing had bothered them, and on the third night out, they decided the fire would be enough to scare off the jungle animals. It was risky, but the continual fight through the jungle underbrush had tired the three boys to the bone and the few hours they stood guard were sorely missed the next day, so they decided to chance it.

Roger was already asleep. Astro had just finished checking his rifle to be ready for instant fire, when Tom threw the last log on the campfire and crawled into his sleeping bag.

"Think it'll be all right, Astro?" asked Tom. "I'm not anxious to wake up inside one of these critter's stomachs."

"Most of them have never seen fire, Tom," Astro said reassuringly. "It scares them. Besides, we're getting close to the big stuff now. You might see a tyranno or a big bronto any time. And if they come along, you'll hear 'em, believe me. They're about as quiet as a squadron of cruisers on battle emergency blasting off from the Academy in the middle of the night!"

"O.K.," replied Tom. "You're the hunter in this crew." Suddenly he laughed. "You know I really got a bang out of the way Roger jumped back from that waddling ground bird yesterday."

Astro grinned. "Yeah, the one thing in this place that's as ferocious as a

kitten and he pulls his ray gun like an ancient cowboy!"

A very tired voice spoke up from the other sleeping bag. "Is that so! Well, when you two brave men came face to face with that baby lizard on a tree root, you were ready to finish your leave in Atom City!" Roger unzipped the end of the bag, stuck his blond head out, and gave his unit mates a sour look. "Sack in, will you? Your rocket wash is keeping me awake!"

Laughing, Astro and Tom nodded good night to each other and closed their sleeping bags. The jungle was still, the only movement being the leaping tongues of flame from the campfire.

An hour later it began to rain, a light drizzle at first that increased until it reached the steady pounding of a tropical downpour. Tom awoke first, opening the flap of his sleeping bag only to get his face full of slimy water that spilled in. Spluttering and coughing he sat up and saw that the campfire was out and the campsite was already six inches deep in water.

"Roger, Astro!" he called and slapped the nearest sleeping bag. Astro opened the flap a little and peered out sleepily. Instantly he rolled out of the bag and jumped to his feet.

"Wake Roger up!" he snapped. "We've got to get out of here!"

"What's the matter?" Roger mumbled through the bag, not opening it. "Why the excitement over a little rain?"

"The fire's out, hotshot," said Astro. "It's as dark as the inside of a cow's number-four belly. We've got to move!"

"Why?" asked Tom, not understanding the big cadet's sudden nervous excitement. "What's the matter with staying right where we are? Why go trooping around in the dark?"

"We can't light a fire anywhere," added Roger, finally sticking his head out of his sleeping bag.

"We've got to get on high ground!" said Astro, hurriedly packing the camping equipment. "We're in a hollow here. The rain really comes down on Venus, and in another hour this place will be a pond!"

Sensing the urgency in Astro's voice, Roger began packing up his equipment and in a few moments the three boys had their gear slung over their shoulders and were slogging through water already knee-deep.

"I still don't see why we have to go tracking through the jungle in the middle of the night," grumbled Roger. "We could climb up a tree and wait out the storm."

"You'd have to wait long after the rain stops," replied Astro. "There is one thing in this place nothing ever gets enough of, and that's water. Animals know it and hang around all the water holes. If a small animal tries to get a drink, he more than likely winds up in something's stomach. When it rains like this, hollows fill up like the one we just left, and everything within running, hopping, and crawling distance heads for it to get a bellyful of water. In another hour our camp will be like something out of a nightmare, with every animal in the jungle coming down for a drink and starting to fight one

another."

"Then if we stayed there—" Roger stopped.

"We'd be in the middle of it," said Astro grimly. "We wouldn't last two minutes."

Walking single file, with Astro in the lead, followed by Roger and then Tom, they stumbled through the pitch-black darkness. Astro refused to shine a light, for fear of being attacked by a desperate animal, more eager for water than afraid of the light. They carried their shock blasters cocked and ready to fire. The rain continued, increasing in fury until they were enveloped in a nearly solid wall of water. In a little while the floor of the jungle became one continuous mudhole, with each step taking them ankle-deep into the sucking mud. Their climb was uphill, and the water from above increased, washing down around them in torrents. More than once one of the cadets fell, gasping for breath, into the dirty water, only to be jerked back to more solid footing by the other two. Stumbling, their hands groping wildly in the dark, they pushed forward.

They were reaching higher ground when Astro stopped suddenly.

"Listen!" he whispered hoarsely.

The boys stood still, the rain pounding down on their plastic headgear, holding rifles ready and straining their ears for some sound other than the drumming of rain.

"I don't hear anything," said Roger.

"*Shhh!*" hissed Astro.

They waited, and then from a distance they heard the faint crashing of underbrush. Gradually it became more distinct until there was no mistaking its source. A large monster was moving through the jungle near them!

"What is it?" asked Tom, trying to keep his voice calm.

"A big one," said Astro. "A real big one. And I think it's heading this way!"

"By the craters of Luna!" gasped Roger. "What do we do?"

"We either run, or stay here and try to blast it."

"Whatever you say, Astro," said Roger. "You're the boss."

"Same here," said Tom. "Call it."

Astro did not answer right away. He strained his ears, listening to the movements of the advancing monster, trying to ascertain the exact direction the beast was taking. The noise became more violent, the crashing more sharply defined as small trees were crushed to the ground.

"If only I knew exactly what it is!" said Astro desperately. "If it's a tyranno, it walks on its hind legs and has its head way up in the trees, and could pass within ten feet of us and not see us. But if it's a bronto, it has a long snakelike neck that he pokes all around and he wouldn't miss us at a hundred feet!"

"Make up your mind quick, big boy," said Roger. "If that thing gets any closer, I'm opening up with this blaster. He might eat me, but I'll sure make his teeth rattle first!"

The ground began to shake as the approaching monster came nearer. Astro

remained still, ears straining for some sound to indicate exactly what was crashing down on them.

Above them, the shrill scream of an anthropoid suddenly pierced the dark night as its tree home was sent crashing to the ground. There was a growing roar and the crashing stopped momentarily.

"Let's get out of here," said Astro tensely. "That's a tyranno, but he's down on all fours now, looking for that monkey! Keep together and make as little noise as you can. No talking. Keep your blasters and emergency lights ready. If he discovers us, you shine the light on his face Roger, and Tom and I will shoot. O.K.?"

Tom and Roger agreed.

"All right," said Astro, "let's go—and spaceman's luck!"

CHAPTER 7

"What can I do for you, Officer?"

Connel heaved his bulk out of the jet launch and looked hard at the man standing in front of him. "You Rex Sinclair?"

Sinclair nodded. "That's right."

Connel offered his hand. "Major Connel, Solar Guard."

"Glad to meet you," replied the planter, gripping the spaceman's hand. "Have something to cool you off."

"Thanks," said Connel. "I can use it. Whew! Must be at least one twenty in the shade."

Sinclair chuckled. "This way, Major."

They didn't say anything more until Connel was resting comfortably in a deep chair, admiring the crystal roof of Sinclair's house. After a pleasant exchange about crops and problems of farming on Venus, the gruff spaceman squared his back and stared straight at his host. "Mr. James, the Solar Delegate, told me you've resisted pressure to join the Venusian Nationalists."

Sinclair's expression changed slightly. His eyebrows lifting quizzically. "Why—yes, that's true."

"I'd like you to tell me what you know about the organization."

"I see," mused Sinclair. "Is that an order?" he added, chuckling.

"That's a request. I'd like to learn as much about the Nationalists as possible."

"For what purpose?"

Connel paused and then said casually, "A spot check. The Solar Guard likes to keep its eyes open for trouble."

"Trouble?" exclaimed Sinclair. "You're not serious!"

Connel nodded his head. "It's probably nothing but a club. However, I'd like to get some facts on it."

"Have you spoken to anyone else?" asked Sinclair.

"I just came from the Sharkey plantation. It's deserted. Not a soul around. I'll drop back by there before I return to Venusport." Connel paused and looked squarely at Sinclair. "Well?"

"I don't know much about them, Major," replied the planter. "It always seemed to me nothing more than a group of planters getting together—"

Connel cut him off. "Possibly, but why didn't you join?"

"Well—"

"Aren't all your friends in it?"

"Yes, but I just don't have time. I have a big place, and there's only me and my foreman and housekeeper now. All the field hands left some time ago."

"Where'd they go?"

"Venusport, I guess. Can't get people to farm these days."

"All right, Mr. Sinclair," declared Connel, "let's lay our cards on the table. I know how you must feel talking about your friends, but this is really important. Vitally important to every citizen in the Solar Alliance. Suppose the Nationalists were really a tight organization with a purpose—a purpose of making Venus independent of the Solar Alliance. If they succeeded, if Venus did break away, Mercury might follow, then Mars—the whole system fall apart—break up into independent states. And when that happens, there's trouble—customs barriers, jealousies, individual armies and navies, and then, ultimately, a space war. It's more than just friendship, Sinclair, it's the smallest crack in the solid front of the Solar Alliance, but it's a crack that *can* be opened further if we don't stop it now."

Sinclair was impressed. "Very well, Major, I'll tell you everything I know about them. And you're right, it is hard to talk about your friends. I've grown up here in the Venusian jungle. I helped my father clear this land where the house is built. Most of the men in the Nationalists are friends of mine, but"—he sighed—"you're right, I can't allow this to happen to the Solar Alliance."

"Allow what to happen?" asked Connel.

"Just what you said, about Venus becoming an independent state."

"Tell me all you know," said Connel.

"The group began to form about three years ago. Al Sharkey came over here one night and said a group of the planters were getting together every so often to exchange information about crops and farming conditions. I went a few times, we all did, on this part of Venus. At first it was fun. We even had picnics and barn dances every three or four weeks. Then one night someone suggested we come dressed in old costumes—the type worn by our forefathers who founded Venus."

Connel nodded.

"Well, one thing led to another," continued Sinclair. "They started talking about the great history of our planet, and complaining about paying taxes to support the Solar Alliance. Instead of opening up new colonies like the one out on Pluto, we should develop our own planet. We stopped dancing, the women stopped coming, and then one night we elected a president. Al Sharkey. The first thing he did was order all members to attend meetings in the dress of our forefathers. He gave the organization a name, the Venusian Nationalists. Right after that, I stopped going. I got tired of listening to speeches about the wonderful planet we live on, and how terrible it was to be governed by men on Earth, millions of miles away."

"Didn't they consider that they had equal representation in the Solar Alliance Chamber?" asked Connel.

"No, Major. There wasn't anything you could say to any of them. If you

tried to reason with them, they called you a—a—" Sinclair stopped and turned away.

"What did they call you?" demanded Connel, getting madder by the minute.

"Anyone that disagreed with them was called an Earthling."

"And you disagreed?" asked Connel.

"I quit," said Sinclair stoutly. "And right after that, I started losing livestock. I found them dead in the pens, poisoned. And some of my crops were burned."

"Did you protest to the Solar Guard?"

"Of course, but there wasn't any proof any one of my neighbors had done it. They don't bother me any more, but they don't speak to me either. It's as though I had a horrible disease. There hasn't been a guest in this house in nearly two years. Three space cadets are the first visitors here since I quit the organization."

"Space Cadets?" Connel looked at the planter quizzically.

"Yes, nice young chaps. Corbett, Manning, and a big fellow named Astro. They're out in the jungle now hunting for tyrannosaurus. I met them through a friend in Venusport and invited them to use my house as a base of operations. Do you know them?"

Connel nodded. "Very well. Finest cadet unit at the Academy. How long have they been in the jungle?"

"About four and a half days now."

"Hope they get themselves a tyranno. But at the same time"—Connel couldn't help chuckling—"if they do, Space Academy will never hear the end of it!"

Suddenly the hot wilting silence around the house was shattered by a thunderous roar. Connel jumped up, followed Sinclair to the window, and stared out over the clearing. They saw what appeared to be a well-organized squadron of jet boats come in for a landing with near military precision. The doors opened quickly and men poured out onto the dusty field. They were dressed alike in coveralls with short quarter-length space boots and round plastic crash helmets. Each man carried a paralo-ray gun strapped to his hips. The uniforms were a brilliant green, with a white band across the chest. The men formed ranks, waited for a command from a man dressed in darker green, and then marched up toward the house.

"By the craters of Luna!" roared Connel. "Who are they?"

"The Nationalists!" cried Sinclair. "They threatened to burn down my house and destroy my farm if I wrote that letter to the delegate. They've come to carry out their threat!"

Connel pulled the paralo-ray gun from his hip and gripped it firmly. "Do you want those men in your house?" he asked Sinclair.

"No—no, of course not!"

"Then you have Solar Guard protection."

"How—?" Sinclair asked. "There are no Solar Guardsmen around here!"

"What in blazes do you think I am, man!" roared Connel as he lunged for the door and stepped out onto the porch. The men were within a hundred feet of the porch when they saw Connel. The Solar Guard officer spread his legs and stuck out his jaw, his paralo-ray gun leveled. "The first one of you tin soldiers that puts a foot on these steps gets frozen stiffer than a snowball on Pluto! Now stand where you are, state your business, and then *blast off*!"

"Halt!" The leader of the column of men held up his hand. Connel saw that the plastic helmets were frosted over, except for a clear band across the eye level. All of the faces were hidden. The leader stepped forward, his hand on his paralo-ray gun. "Greetings, Major Connel."

Connel snorted. "If you'd take off that Halloween mask, I might know who I'm talking to!"

"My name is Hilmarc."

"Hilmarc?"

"Yes. I am the leader of this detachment."

"Leader, huh?" grunted Connel. "Leader of what? A bunch of little tin soldiers?"

"You shall see, Major." Hilmarc's voice was low and threatening.

"I'm going to count to five," announced Connel grimly, lifting his paralo-ray gun, "and if you and your playmates aren't back in your ships, I start blasting."

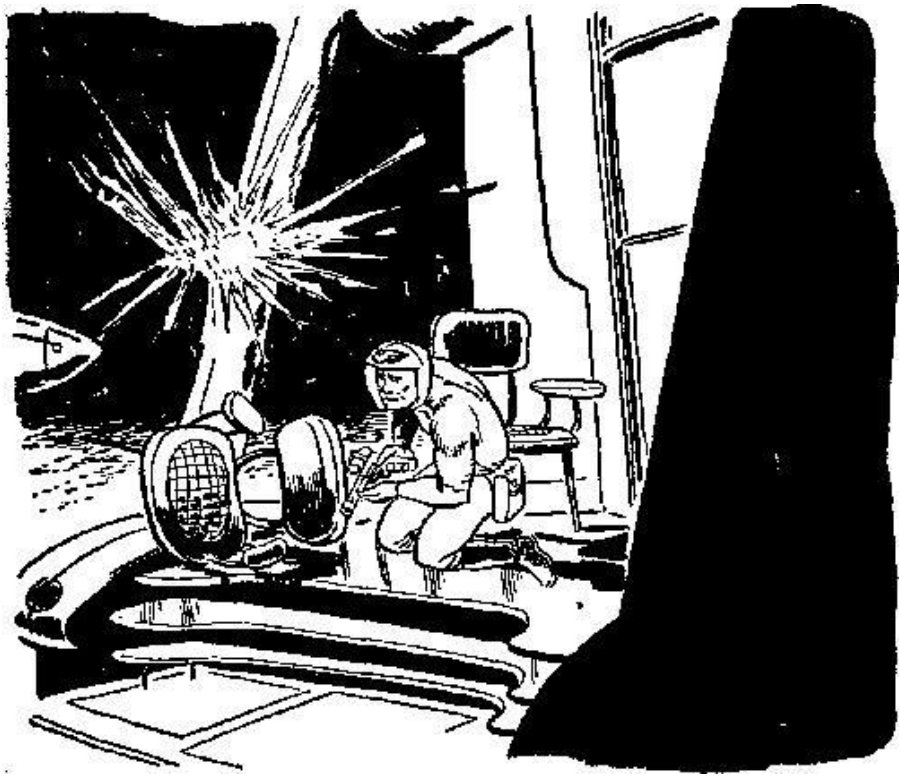
"That would be unwise," replied Hilmarc. "Your one gun against all of ours."

Connel grinned. "I know. It's going to be a whale of a fight, isn't it?" Then, without pause, he shouted, "*One—two—three—four—five!*"

He opened fire, squeezing the trigger rapidly. The first row of green-clad men were immediately frozen. Dropping to one knee, the spaceman again opened fire, and men in the second row stiffened as they tried to return the fire.

"Fire! Cut him down!" roared Hilmarc frantically.

The men broke ranks and the area in front of Sinclair's house crackled with paralo-ray gunfire. Darting behind a chair, Connel dropped to the floor, his gun growing hot under the continuous discharge of paralyzing energy. In a matter of moments the Solar Guard officer had frozen nearly half of the attacking troop, their bodies scattered in various positions. Suddenly his gun spit fire and began to smoke. The energy charge was exhausted. Connel jumped to his feet and snapped to attention. He knew from experience that if being hit was inevitable, the best way to receive the charge was by standing at attention, taking the strain off the heart. He faced the clearing and a dozen shots of paralyzing energy hit him simultaneously. He became rigid and the short furious battle was over.



One of the green-clad men released Hilmarc from the effects of Connel's ninth shot and he stepped forward to stare straight into Connel's eyes. "I know you can hear me, Major. I want to compliment you on your shooting. But your brave resistance now is as futile as the resistance of the entire Solar Guard in the near future." Hilmarc smiled arrogantly and stepped back. "Now, if you'll excuse me, I will attend to the business I came here for—to take care of a weakling and an informer!" He turned and shouted to his men. "You have your orders! Get Sinclair and then burn everything in sight."

* * * * *

"Astro, Tom," gasped Roger. "I—I can't go on."

The blond-haired cadet fell headlong to the ground, almost burying himself in the mud. Tom and Astro turned without a word, and gripping Roger under each arm, helped him to his feet. Behind them, the thunder of the stalking

tyrannosaurus came closer, and they forced themselves to greater effort. For two days they had been running before the monster. It was a wild flight through a wild jungle that offered them little protection. And while their fears were centered on the brute behind them, their sleepy, weary eyes sought out other dangers that lay ahead. More than once they stopped to blast a hungry, frightened beast that barred their path, leaving it for the tyrannosaurus and giving themselves a momentary respite in their flight.

Astro led the way, tirelessly slashing at the vines and creepers with his jungle knife, opening the path for Roger and Tom. The Venusian cadet was sure that they were near the clearing around the Sinclair plantation. Since early morning he had seen the trail markers they had left when they started into the jungle. The cadets knew that if they didn't reach the clearing soon they would have to stand and fight the terrible thing that trailed them. During the first wild night, they had stumbled into a sinkhole, and as Tom wallowed helplessly in the clinging, suffocating mud, Astro and Roger stood and fought the giant beast. The shock rifles cracked against the armorlike hide of the monster, momentarily stunning him, but in the darkness and rain, they were unable to get a clear head shot. When Tom finally pulled himself out of the mudhole, they struggled onward through the jungle, with only one shot left in each blaster.

"How much farther, Astro?" asked Tom, his voice weak with fatigue. "I'm starting to fold too."

"Not too far now, Tom," the big cadet assured him. "We should be hitting the clearing soon now." He turned and looked back. "If we could only get a clear shot at that brute's head!"

"Hang on, Roger," said Tom. "Just a little more now."

Roger didn't answer, merely bobbing his head in acknowledgment.

Behind them, the crashing thunderous steps seemed to be getting closer and Astro drove himself harder, slashing at the vines and tangled underbrush, sometimes just bursting through by sheer driving strength. But the heavy-footed creature still stalked them ponderously.

Suddenly Astro stopped and sniffed the air. "Smoke!" he cried. "We're almost there!"

Tom and Roger smiled wanly and they pushed on. A moment later the giant cadet pointed through the underbrush. "There! I see the clearing! And—by the stars—there's a fire! The house is burning!"

Forgetting the danger behind them, the three boys raced toward the clearing. Just before they emerged from the jungle, they stopped and stood openmouthed with astonishment, staring at the scene before them.

"By the craters of Luna!" gasped Astro. "Look!"

The outbuildings of the plantation were burning furiously, sending up thick columns of smoke. The wind blew the dense fumes toward them and they began to cough and gag. Through the smoke they saw a strange array of jet craft in the clearing. Then suddenly their attention was jerked back to another

danger. The tyrannosaurus was nearly upon them.

"Run!" roared Astro. He broke for the clearing, followed by Roger and Tom. Once in the open, the boys ran several hundred yards to the nearest jet craft, and safely in the hatch, turned to see the monster come to the edge of the clearing and stop. They saw the brute clearly for the first time.

It stood up on its hind legs, standing almost a hundred feet high. It moved its flat, triangular-shaped head in a slow arc, peering out over the clearing. The smoke billowed around it. It snorted several times in fear and anger. Astro looked at it, wide-eyed, and finally spoke in awed tones. "By the rings of Saturn, it is!"

"Is what?" asked Tom.

"The same tyranno I blasted when I was a kid, the one that trapped me in the cave!"

"Impossible!" snorted Roger. "How can you tell?"

"There on the head, the scars—and that eye. That's the mark of a blaster!"

"Well, I'll be a rocket-headed Earthworm!" said Tom.

The smoke thickened at the moment, and when it cleared again, the great beast was gone. "I guess the smoke chased him away," said Astro. "Smoke!" He whirled around. With the threat of the tyrannosaurus gone, they could face the strange happenings around the clearing.

"Come on," said Tom. He started for the burning buildings in back of the house.

Just at that moment a group of the green-clad men came around the side of the house. Astro grabbed Tom by the arm and pulled him back.

"What's going on here? All these ships, buildings burning, and those men dressed in green. What is it?"

The three boys huddled behind the jet and studied the scene.

"I don't get it," said Tom. "Who are those men? They almost look as if they're soldiers of some kind, but I don't recognize the uniform."

"Maybe it's the fire department," suggested Roger.

"Wait a minute!" roared Tom suddenly. "There on the porch! Major Connel!"

"Omigosh!" said Astro. "It is, but what's the matter with him? Why is he standing there like that?"

"He's been paralo-rayed!" exclaimed Roger. "See how still he is! Whatever these jokers in uniforms are, they're not friendly!" He raised his shock rifle. "This last shot in my blaster should—"

"Wait a minute, Roger," said Tom, "don't go off half-cocked. We can't do much with just three shots. We'd better take over one of these ships. There must be guns aboard."

"Yeah," said Astro. "How about that big one over there?" He pointed to the largest of the assembled crafts.

"O.K.," said Tom. "Sneak around this side and make a dash for it."

Gripping their rifles, they slipped around the stern of the small ship, and

keeping a wary eye on the milling men around the front of the building, they dashed toward the bigger ship.

On the porch of the main house, Major Connel, every muscle in his body paralyzed, saw the three cadets dart across the field and his heart skipped a beat. Immediately before him, two of the green-clad men were holding Sinclair while Hilmarc addressed him arrogantly.

"This is just the beginning, Sinclair. Don't try to cross us again. Neither you nor anyone else can stop us!" He whirled around and faced Connel. "And as for you and your Solar Guard, Major Connel, you can tell them—"

Hilmarc's tirade was suddenly interrupted by a shrill whistle and the glare of a red flare overhead. There was a chorus of shouts as the men ducked for cover.

A voice, Connel recognized as Tom's, boomed out over the loud-speaker of the large jet ship near the edge of the clearing. "Now hear this! You are covered by an atomic mortar. Drop your guns and raise your hands!"

The men stared at the ship, confused, but Hilmarc issued a curt command. "Return to the ships!"

"But—but he'll blast us," whined one of the men. "He'll kill us all."

"You fool!" roared Hilmarc. "It must be a friend of Connel's or Sinclair's. He won't dare fire an atomic shell near this house, for fear of killing his friends! Now get aboard your ships and blast off!"

From their ship, Tom, Roger, and Astro saw the men scatter across the field, and realizing their bluff had failed, they opened fire with the paralo-ray guns. But their range was too far. In a few moments the clearing around the Sinclair home was alive with the coughing roar of the jets blasting off.

As soon as they were alone, Sinclair snatched up an abandoned ray gun and released the major from the charge. Connel immediately jumped for another gun. But then, as the jets started to take off, he saw that it would be useless to pursue the invaders. Thankful that the cadets had arrived in time, he trotted across the clearing to meet them as they climbed wearily from the remaining jet ship.

"By the craters of Luna," he roared good-naturedly, "you three space-brained idiots had me scared! I thought you would really let go with that mortar!"

Tom and Roger grinned, relieved to find the spaceman unhurt, while Astro looked off at the disappearing fleet of ships.

"What's happened, sir?" asked Tom. "What's it all about?"

"Haven't time to explain now," said Connel. "I just want you three to know you got back here in time to save the rest of this man's property." He turned toward Sinclair, who was just approaching. "Did you recognize any of them?" he asked the planter.

Sinclair shook his head. "I thought I did—by their voices, I mean. But I couldn't see anyone through that frosted headgear they were wearing."

"Well, they left a ship. We'll find out who that belongs to," said Connel.

"All right, Corbett, Manning, Astro. Stand by to blast off!"

"Blast off?" exclaimed Roger. "But we're on leave, sir!"

"Not any more, you're not!" snapped Connel. "You're recalled as of now! Get this ship ready to blast off for Venusport in five minutes!"

CHAPTER 8

"Are you sure they went south, Astro?"

Major Connel was examining a map of the Southern Hemisphere of Venus. The three cadets were grouped around him in the small control room of the jet ship.

"I think so, sir," replied Astro. "I watched them circle and then climb. There would be no reason to climb unless they were going over the mountains."

"What do you think, Tom?" asked Connel.

"I don't know, sir. The map doesn't show anything but jungle for about a thousand square miles. Unless there's a secret base somewhere between here and there"—he placed his fingers on the map where the Sharkey and Sinclair plantations were marked—"I don't see where they could have gone."

"Well, that must be the answer, then," sighed the gruff spaceman. "Our alert to the patrol ships in this area narrows it down. Nothing was spotted in the air. And they couldn't have blasted off into space. All their ships were low-flying stuff."

Blasting off from the Sinclair plantation immediately, the three cadets and the major had hoped to find the operations base of the green-clad invaders, but the ships had disappeared. The ship they had captured proved to be a freighter with no name and all identifying marks removed. They had asked the Solar Guard ship registry in Venusport to check on the vessel's title but so far had received no answer.

Now blasting back to Venusport at full speed, Connel told the boys the real nature of his mission to Venus. The boys were shocked, unable to believe that anyone, or any group of persons, would dare to buck the authority of the Solar Guard. Yet they had seen with their own eyes a demonstration of the strength of the Nationalists. Roger had sent a top-secret teleceiver message to Commander Walters at Space Academy, requesting an immediate conference with Connel, and had received confirmation within a half-hour.

"I think Captain Strong will be along too," said Roger to Tom after Connel had retired to a compartment with a recorder to transcribe a report of the affair at Sinclair's. "The message said we were to prepare a full report for consideration by Commander Walters, Professor Sykes, and Captain Strong."

"Boy," said the curly-haired cadet, "this thing is too big for me to swallow. Imagine a bunch of dopes dressing up in uniforms and burning a guy's buildings because he wrote a letter to his delegate!"

"I'd hate to be a member of that organization when Commander Walters

gets through with them," said Roger in a slow drawl. "And particularly the guy that ordered Connel blasted with that ray gun. Ten shots at once! Wow! That guy must have nerves made of steel!"

Within an hour the jet freighter was circling Venusport and was given priority clearance for an immediate landing. Immediately upon landing, the ship swarmed with Solar Guardsmen, grim-faced men assigned to guard it, while technicians checked the ship for identification. The three boys were still wearing the jungle garb when they presented themselves to Major Connel with the request for a little sleep.

"Take an aspirin!" roared Connel. "We've got important work to do!"

"But, sir," said Roger, his eyes half-closed, "we're dead on our feet! We've been out in the jungle for three days and—"

"Manning," interrupted the spaceman, "everything you saw during that business back at Sinclair's might be valuable. I'm sorry, but I'll have to insist that you talk to the Solar Guard security officers first. As tired as you are, you might forget something after a heavy sleep."

There was little else the boys could do but follow the burly officer out of the ship to a well-guarded jet cab which took them through the streets of Venusport to the Solar Guard headquarters.

They rode the elevator to the conference room in silence, each boy feeling at any moment that he would collapse from exhaustion. In the long corridor they passed tough-looking enlisted guardsmen who were heavily armed, and before being allowed into the conference room, they were scrutinized by a burly officer. Finally inside, they were allowed to sit down in soft chairs and were given hot cups of tea to drink while precise, careful interrogators took down the story of their first meeting with the Venusian Nationalists. They were forced to repeat details many times, in the hope that something new might be added. Groggy after nearly two hours of this, the boys felt sure that the time had come for them to be allowed to get some sleep, but after the last question from the interrogators, they were ushered into the presence of Commander Walters, Major Connel, Professor Sykes, Captain Strong, and several recording secretaries. Before the conference began, Delegate E. Philips James arrived with his personal secretary. He offered his excuses for being late and took his place at the long table. Tom shot a glance at the secretary. The man looked vaguely familiar to him. The cadet tried to place him, but he was so tired that he could not think.

"Major Connel," began Commander Walters abruptly, "what do you consider the best possible move for the Solar Guard to make? Under the present circumstances, do you think we should undertake a full-scale investigation? We talked to Al Sharkey, and while he admits being head of an organization known as the Venusian Nationalists, he denies any knowledge of any attack on Sinclair such as you describe. And he claims to have been in Venusport when the incident happened."

Connel thought a moment. "I don't know about Sharkey, but I don't think a

public investigation should be made yet. I think it would arouse a lot of speculation and achieve no results."

"Then you think we should move against them merely on the basis of this encounter at the Sinclair plantation," asked E. Philips James in his smoothest manner.

Connel shook his head. "I think our best bet is to locate their base. If we can nail them with solid evidence, we'll have a good case to present before the Grand Council of the Solar Alliance."

"I agree with you, Major." James smiled. Behind him, his secretary was busy transcribing the conversational exchange on his audioscriber.

"What would you require to locate the base?" asked Walters.

"I haven't worked out the details yet," said Connel, "but a small expedition into the jungle would be better than sending a regiment of guardsmen, or a fleet of ships."

"Do you have any idea where the base might be?" Sykes suddenly spoke up. "Most of those men were supposed to be planters who know the jungle well. Isn't it possible that they might have their base well hidden and a small party, such as you suggest, could cover too little ground?"

Connel turned to Astro. "Astro, do you know that section of the belt?"

"Yes, sir," replied Astro. "I hunted all over that area when I was a boy." The big cadet went on to explain how he had become so familiar with the jungle, and described briefly their experience with the tyrannosaurus. All of the men at the table were impressed by his knowledge of jungle lore.

"I gather you plan to take these cadets on your expedition, Major," commented James.

"Yes, I do. They work well together and have already been in the jungle," answered Connel.

"What do you three boys think of the idea?" asked Walters. "I don't have to remind you that you'll be up against two kinds of danger: the jungle itself, and the Nationalists."

"We understand, sir," replied Tom, without even waiting for his unit mates' quick nods.

"There's another factor," Captain Strong broke in. "You'll be giving up your leave. There won't be any extra time off. Should this mission be completed before the next term at the Academy begins, fine. But if not, you'll have to return to work immediately."

"We understand that too, sir," said Tom. "We're willing to do anything we can. And if I might offer a personal opinion"—he glanced at Astro and Roger—"I think the *Polaris* unit appreciates the seriousness of the situation and we agree with the major. A small party, especially ours, since we're already established as hunters, would be less suspect than a larger one."

"I think we all agree that the *Polaris* unit is qualified for the mission, Corbett," said Walters, who saw through Tom's eagerness to be assigned to go with the major.

The meeting broke up soon afterward. Connel remained with Strong and Walters to work out the details of the mission and to draft a top-secret report to the Grand Council of the Solar Alliance.

The three weary cadets were quartered in the finest hotel in Venusport and had just stumbled into bed when the room teleceiver signal buzzed. Tom shuffled over to the screen near the table where the remains of a huge supper gave mute evidence of their hunger. Switching on the machine, he saw Strong's face come into focus.

"I hope you boys aren't too comfortable," announced Strong. "I'm afraid the sleep you're so hungry for will have to wait. This is an emergency!"

"Oh, no!" groaned Roger. "I can't understand why emergencies come up every time I try to pound the pillow!"

Astro fell back onto his bed with the look of a martyred saint and groaned.

"What is it, sir?" asked Tom, who was as tired as the others. Nonetheless he felt the urgency in Strong's voice.

"You blast off in half an hour," said the Solar Guard captain. "The *Polaris* has been refitted and you're to check her over before returning to Sinclair's. Everything has been prepared for you. Get dressed and you'll find a jet cab waiting for you in front of the hotel. I had hoped to see you again before you left, but I've been ordered back to the Academy with Commander Walters. We've got to report to the Solar Council, personally."

"O.K., sir," said Tom, then smiled and added, "We're sorry your fishing was interrupted."

"I wasn't catching anything, anyway." Strong laughed. "I've got to go. See you back at the Academy. Spaceman's luck!"

"Same to you, sir," replied Tom. The screen blurred and the image faded as the connection was broken. Tom turned to face his sleepy-eyed unit mates. "Well, I guess we'd better take another aspirin. It looks like a hard night!"

Hastily donning fresh jungle gear supplied the night before in anticipation of the mission, the three cadets trouped wearily out of their rooms and rode down to the lobby in the vacuum elevator. They walked across the deserted lobby as though in a trance and outside to the quiet street. A jet cab stood at the curb, the driver watching them. He whistled sharply and waved at them. "Hey, cadets! Over here!"

Still in a fog, the three cadets climbed into the back seat, flopping into the soft cushions with audible groans as the cab shot away from the hotel and sped into the main highway which led to the spaceport.

The traffic was light and the cab zoomed along at a smooth, fast clip, lulling the boys into a fitful doze. But they were rudely awakened when the car spun into a small country lane and the driver slammed on the brakes. He whirled around and grinned at them over a paralo-ray pistol. "Sorry, boys, the ride ends here. Now climb out and start stripping."

The three sleepy cadets came alive instantly. Without a word they moved in three different directions simultaneously. Tom dived for one door, Astro the

other, while Roger flopped to the floor. The driver fired, missing all of them, and before he could fire again he was jerked out of his seat and held in a viselike grip by Astro. Tom quickly wrenched the paralo-ray gun from his hand.

"All right, you little space crawler," growled Astro, "start talking!"

"Take it easy, Astro," said Tom. "How do you expect him to talk when you've got him around the Adam's apple!"

"Yeah, you big ape," said Roger in a slow drawl. "Find out what he has to say before you twist his head off!"

Astro released the man, pushing him against the cab door and pinning him there.

"Now let's have it," he growled. "What's this all about?"

"I didn't mean any harm," whined the cab driver. "A guy calls me and says for me to meet three Space Cadets."

"What guy?" snapped Tom.

"A guy I once knew when I was working the fields in the jungle belt. I

worked on a plantation as a digger."

"What's his name?" asked Roger.

"I don't know his name. He's just a guy. He calls me and says it's worth a hundred credits to pick up three Space Cadets from the hotel and hold 'em for an hour. I figured the best way to hold you would be to make you take your clothes off."

"What did he look like?" asked Roger.

"A little guy, with a bald head and a limp. That's all I know—honest."

"A limp, eh?" asked Tom. "A little fellow?"

"How little?" asked Astro, getting the drift of Tom's question.

"Real little. About five feet maybe, not much more'n that!"

The three boys looked at each other and nodded.

"The guy we bought our jungle gear from in the pawnshop!" exclaimed Astro.

"Yeah," said Tom. "It sure sounds like him. But why would he want to stop us? And more important, who told him that Captain Strong was sending a cab for us?"

They turned back to the cab driver for further explanation, but the man was now actually crying with fright.

"We won't get anything more out of this little creep," said Astro. "Let's just turn him over to the Solar Guard at the spaceport. They'll know how to handle him."

"Right," Tom agreed. "We've lost enough time as it is."

"No, no—please!" moaned the cabman. "Lemme go! Take the cab. Drive it to the spaceport and just leave it, but please don't turn me over to the Solar Guard. If I'm seen with them, I'll be—" Suddenly the man darted to one side, eluded Astro's lunge, and scampered away. In a moment he was swallowed up in the darkness.

"Boy," breathed Astro, "he was sure scared of something!"

"Yes," said Tom. "And I'm beginning to get a little scared myself!"

The cadets climbed into the cab and roared off toward the spaceport, each boy with the feeling that he was sitting on a smoldering volcano that was suddenly starting to erupt around him.

CHAPTER 9

"Rocket cruiser *Polaris* to Solar Guard Venusport! Request emergency relay circuit to Commander Walters en route Earth!"

On the radar bridge of the *Polaris*, Roger Manning spoke quickly into the teleceiver microphone. Just a few minutes before the giant spaceship had blasted off from Venusport, heading for the Sinclair plantation, Major Connel had ordered Roger to get in touch with Walters to report the latest security leak. On the control deck the major paced back and forth restlessly as Tom guided the *Polaris* on its short flight.

"I'll find the spy in the Solar Guard if I have to tear Venusport apart piece by piece!" fumed Connel.

"What about that jet freighter we took away from the Nationalists, sir?" asked Tom. "Did you ever find out where it came from?"

Connel nodded. "It was an old bucket on the Southern Colonial run. She was reported lost last year. Somehow those jokers got hold of her and armed her to the teeth."

"You think maybe the crew could have mutinied, sir?"

"It's highly possible, Corbett," answered Connel, and glanced around. "If they have any other ships of that size, the *Polaris* will be able to handle them."

"Yes, sir." Tom smiled. "The repair crew did a good job on her." The cadet paused. "Do you suppose one of the Nationalists planted that bomb on her fin?"

"No doubt of it," replied Connel. "And it seems to tie in with a rather strange thing that happened in the Venusian Delegate's office the day before it happened."

"What was that, sir?" asked Tom.

"Three priority orders for seats aboard a Venusport—Atom City express were stolen. Before a check could be made, the ship had made its run and the people using the priorities were gone. They must have been the ones that bumped you off your seats."

"How do you think that ties in with the bomb on the *Polaris*, sir?"

"We're trying to figure that out now," said Connel. "If only we knew what they looked like it would help. The girl at the ticket office doesn't remember them and neither does the ship's stewardess."

"But we saw them, sir!" exclaimed Tom.

"You what!" roared Connel.

"Yes, sir. We were standing there at the ticket counter when they called for their tickets."

"Do you think you'd recognize them again?"

"I'll say!" asserted Tom. "And I'm sure Astro and Roger would, too. We were so mad, we could have blasted them on the spot."

Connel turned to the intercom and shouted, "Manning, haven't you got that circuit through yet?"

"Working on it, sir." Roger's voice was smooth and unruffled over the intercom. "I'm in contact with the commander's ship now. They're calling him to the radar bridge now."

Tom suddenly jumped out of his seat as though stung. "Say! I saw one of the fellows again too!"

Connel whirled quickly to face the young cadet. "Where?" he demanded. "Where did you see him?"

"I—I'm trying to remember." Tom began pacing the deck, snapping his fingers impatiently. "It was sometime during the past few days—I know it was!"

"In Venusport?" demanded Connel, following Tom around the deck.

"Yes, sir—"

"Before or after your trip into the jungle?"

"Uhh—before, I think," Tom replied hesitantly. "No. No. It was after we came back."

"Well, out with it, Corbett!" exploded the major. "When? Where? You didn't do that much visiting! You were too tired to move!"

"That's just it, sir," said Tom, shaking his head. "I was so tired everything was a blur. Faces are all mixed up. I—I—" The boy stopped and put his hands to his head as though trying to squeeze the one vital face out of his hazy memory.

Connel kept after him like a hungry, stalking animal. "Where, Corbett? When?" he shouted. "You've got to remember. This is important! Think, blast you!"

"I'm trying, sir," replied the cadet. "But it just won't come to me."

The buzz of the intercom suddenly sounded and Connel reluctantly left Tom to answer it. Roger's voice crackled over the speaker. "I have Commander Walters now, sir. Feeding him down to the control-deck teleceiver."

"Oh, all right," replied Connel and turned to Tom. "Come on, Corbett. I want you to report to the commander personally."

"Yes, sir," replied Tom, walking slowly to the teleceiver. "I'm sorry I can't remember where I saw that man."

"Forget it," Connel said gruffly. "It'll come to you again sometime." He paused and then added as gently as he could, "Sorry I blasted you like that."

When Commander Walters' face appeared on the teleceiver screen, Connel reported the incident of the cab driver and the news that Tom, Roger, and

Astro had seen the three men who had taken the priorities on the *Venus Lark*.

"Just a minute," said Walters. "I'll have a recorder take down the descriptions."

Connel motioned to Tom, who stepped before the screen. When he saw Walters nod, he gave a complete description of the three men he had seen in the Atom City spaceport.

"Let's see, now," said Walters, after Tom had concluded his report. "The man who asked for the tickets was young, about twenty-two, dressed in Venusian clothing, dark, six feet tall, weighed about one hundred and fifty pounds. Right?"

"Yes, sir," replied Tom.

Connel suddenly stepped before the screen to interject, "And Corbett saw him in Venusport again sometime during the last two days."

"Really? Where?"

Connel glanced at Tom and then replied hurriedly, "Well, he can't be sure, sir. We rushed him around pretty fast and he saw a lot of people. But at least we know he's in Venusport somewhere."

"Yes," nodded Walters. "That's something to work on, at least. And you have nothing more to add to the descriptions of the other two, Corbett?"

"Not anything particular, sir," said Tom. "They were dressed in Venusian-type clothes also, but we didn't get a close look at them."

"Very well," said Walters. "Proceed with your mission, Major. I'll have an alert sent out for the cab driver, and I'll have the owner of the pawnshop picked up. There must be someone on the Solar Delegate's staff who stole those priorities. We'll start searching there first, and if we come up with anyone who can't explain his absence from Venusport at the time the priorities were used, and fits Corbett's description, we'll contact you. End transmission!"

"End transmission!" repeated Connel. The screen blanked out and Roger's voice came over the intercom immediately. "We'll be over Sinclair's in three minutes," he called. "Stand by."

Tom turned to the controls and in exactly two minutes and fifty seconds the clearing surrounding Sinclair's home and the burned outbuildings came into view. Working effortlessly, with almost casual teamwork, the three cadets brought the giant spaceship to rest in the middle of the clearing. As the power was cut, the cadets saw George and Mrs. Hill jumping into a jet car and speeding out to greet them.

After Tom introduced Connel to the couple, the major questioned them closely about their absence during the attack by the shock troops.

"Mr. Sinclair often gives us time off for a trip into Venusport," explained Hill. "It gets pretty lonely out here."

"Is Mr. Sinclair in now?" asked Connel.

"No, he isn't," replied the plantation foreman. "He's on his weekly trip around the outer fields. I don't expect him back for another day or two."

"For goodness sakes," exclaimed Mrs. Hill, "you can ask your questions

just as easily and a darn sight more comfortably in the house! Come on. Let's get out of the sun."

The small group climbed into the jet car and roared off across the clearing toward the house. The lone building left standing by the Nationalists looked strange amid the charred ruins of the other buildings. In the house, the three cadets busied themselves with home-baked apple pie which the housekeeper had brought out, while Connel was telling George of the attack on the plantation.

"I've known about them all along, of course," said the foreman. "But I never paid any attention to them. I just quit, like Mr. Sinclair, when they started all that tomfoolery about wearing uniforms and stuff."

"Well," said Connel, accepting a wedge of pie at Mrs. Hill's insistence, "now they've made the wrong move. Burning Sinclair's property and attacking an officer of the Solar Guard is going too far."

"What are you going to do about it?" asked George.

"I'm not at liberty to say, Mr. Hill," replied Connel. "But I can tell you this.

When any person, or group of persons, tries to dictate to the Alliance, the Solar Guard steps in and puts a stop to it!"

Suddenly the silence of the jungle clearing was shattered by the roar of a single jet craft coming in for a landing. Without looking out the window, George smiled and said, "There's Mr. Sinclair now! I know the sound of his jets."

The group crowded out onto the front porch while George took the jet car and drove off to pick up his employer. A few moments later Sinclair was seated before Connel, wiping his sweating brow and accepting a cool drink from Mrs. Hill.

"I was on my way to the north boundary when I saw your ship landing," explained Sinclair. "At first I thought it might be those devils coming back, but then I saw the Solar Guard insigne on the ship and figured it might be you." He looked at Connel closely. "Anything new, Major?"

"Not yet," replied Connel. "But you can rest assured that you won't be bothered by them again."

Sinclair paused, eying the major speculatively. "You know, as soon as you left, I went over to talk to Al Sharkey. I was plenty mad and really blasted him, but he swears that he was in Venusport at the time and doesn't know a thing about the raid."

Connel nodded. "That's true. We checked on him. But while he might not have been in on the raid itself, there's nothing that says he didn't order it done!"

"I doubt it," said Sinclair, with a queer apologetic note in his voice. "I'm inclined to believe that it was nothing more than a bunch of the younger, more hotheaded kids in the organization. As a matter of fact, Sharkey told me he was quitting as president. Seems you fellows in Venusport scared him plenty. Not only that, but I heard him calling up the other planters telling them what happened and every one of them is chipping in to rebuild my plantation."

Connel looked at the planter steely-eyed. "So you think it was done by a bunch of kids, huh?"

Sinclair nodded. "Wouldn't be surprised if they're not scared too!"

"Well, you are entitled to your opinion, Mr. Sinclair. And if the other planters are going to rebuild your buildings, that's fine and charitable of them." Suddenly Connel's voice became harsh. "That does not, however, erase the fact that a group of uniformed men, armed with paralo-ray guns and with ships equipped with blasters, attacked you! Atomic blasters, Mr. Sinclair, are not bought at the local credit exchange. They are made exclusively for the Solar Guard! That bunch of hotheaded kids, as you call them, are capable of attacking any community—even ships of the Solar Guard itself! That is a threat to the peace of the solar system and must be stopped!"

Sinclair nodded quickly. "Oh, I agree, Major, I agree. I'm just saying that __"

Connel stopped him. "I understand, Mr. Sinclair. You're a peaceful man and

want to keep your life peaceful. But my job is to ensure that peace. As long as a group of militant toughs like we had here are on the loose, you won't have peace. You'll have pieces!"

Tom, Roger, and Astro, sitting quietly and listening, felt like standing up and cheering as the major finished.

"I know you can't tell me what you're going to do, Major Connel," said the planter, "but I hope that you'll allow me to help in any way I can."

Connel hesitated before answering. "Thank you, Mr. Sinclair. But I'm not here officially now." And then he added, "Nor in regard to the Nationalists."

Sinclair's eyes lit up slightly. "Oh?"

"No. As you know, the cadets had quite a time with a tyrannosaurus. They wounded it and it might still be dangerous. That is, more dangerous than normally. I've got orders to track him down and finish him off."

"But I thought you said you were going to put a stop to this business with the Nationalists," said the planter.

"I said the Solar Guard would, Sinclair."

"Oh, yes," mumbled Sinclair, "the Solar Guard. Of course."

Connel got up abruptly. "I would appreciate it if you would look after our ship, though," he said. "I don't think we'll be longer than a week. Shouldn't be hard to track a tyrannosaurus, especially if it's wounded."

"I suppose you have all the equipment you need," said Sinclair.

"Yes, thank you," replied Connel. Then, thanking Mrs. Hill for the refreshments, the burly spaceman and the three cadets said good-by and left the house.

An hour later, ready to strike off into the jungle, the Solar Guard officer took four of the latest model shock rifles out of the arms locker of the *Polaris* and gave one to each boy with extra ammunition. "Never go after a giant with a popgun," he said. "It's a wonder you didn't kill yourselves with those old blasters you used, let alone kill a tyranno."

The three cadets examined the rifles closely and with enthusiasm.

"These are the latest Solar Guard issue," said Connel. "When you pull that trigger, you release a force three times greater than anything put into a rifle before."

Then, checking the *Polaris* and cutting all power, Connel removed the master switch and hid it. "That's so no one will get any bright ideas while we're gone," he explained as the boys watched curiously.

"You think someone might try to steal her, sir?" asked Tom.

"You never can tell, Corbett," answered Connel noncommittally.

Once again the three boys moved across the clearing toward the jungle wall. Astro took the lead as before, followed by Roger and Tom, and Connel brought up the rear. They moved directly to the spot where they had last seen the tyrannosaurus, found the trampled underbrush and massive tracks, and moved purposefully into the dank, suffocating green world.

The trail was plain to see. Where the boys once had to hack their way

through the thick underbrush, the monster had created a path for them. The three cadets felt better about being back in the jungle with more reliable equipment and joked about what they would do to the tyrannosaurus when they saw it again.

"I thought you were supposed to be the home-grown Venusian hick that could manage in the jungle like that fairy-tale character, Tarzan," Roger teased Astro.

"Listen, you sleepwalking space Romeo," growled Astro, "I know more about this jungle than you could learn in ten years. And I'm not foolish enough to battle with a tyranno with the odds on his side. I ran for a good reason!"

"Boy, did you run!" taunted Roger. "You were as fast as the *Polaris* on emergency thrust!"

"Knock off that rocket wash!" roared Connel. "The Nationalists might have security patrols in this area. They could hear you talking and blast you before you could bat an eyelash! Now keep quiet and stay alert!"

The three cadets quieted down after that, walking carefully, stepping around dead brush that might betray their presence. After working their way along the tyrannosaurus's trail for several hours, Connel called a halt, and after a quick look at his compass, motioned for them to cut away from the monster's tracks.

"We'll start working around in a circle," he said. "One day east, one south, west, and north. Then we'll move in closer to the heart of the circle, and repeat the same procedure. That should cover a lot of ground in eight days. If anything's moving around out here, besides what should be here, we'll find it. From now on, we'll have a scout. Astro, you know the jungle, you take the point, about five hundred yards ahead. If you see anything, signs of a patrol or any danger from the jungle, fall back and report. Don't try to do anything yourself. Four guns in a good position are better than one popping off by itself."

"Aye, aye, sir," said Astro. With a quick nod to Tom and Roger, he moved off through the jungle. In ten feet he was invisible. In thirty seconds his footsteps were lost in the thousands of jungle sounds around them.

"I'll take the lead now," said Connel. "Corbett, you bring up the rear. All right, move out!"

From above, in the leafy roof covering the jungle; from the side, in the thick tangle of vines; and from below, in the thorny underbrush, the eyes of living things, jungle things, followed the movements of the three spacemen, perhaps wondering if these new beasts were a threat to their lives.

CHAPTER 10

"Hal-loo-ooo!"

Astro's voice boomed out over the tops of the trees, where the birds fluttered in sudden fright. It echoed through the darkness around him, where smaller creatures crawled and slithered into the protection of their holes. The voice of the big cadet was loud, but it was not loud enough for his mates to hear.

Astro was lost.

He couldn't understand how it had happened. Over and over during the past six hours he had retraced his steps mentally, trying to visualize the trail, trying to locate the telltale marks he had made with his jungle knife, and so find Major Connel, Tom, and Roger. It was dark now and the big cadet had to face the dangerous jungle alone. He laughed ironically. Connel had given him the point because he knew the jungle! And now he was lost.

Astro was a little frightened too. It was his frank realization of trouble that made him afraid. He knew what was in the jungle, and though he had been there alone before, he had never been in it as deeply as this, nor had he ever been lost in the nightmarish place after sundown.

While he was desperately anxious to find his unit mates, he had not fired his rifle. The threat of exposing his position to a possible Nationalist patrol prevented him from signaling with the blaster or even from building a fire. During the last hours of the day, when the suspicion that he was lost became a concrete fact, the big cadet had been reluctant even to yell. Now, with pitch-black night closing around him, he dared to call, hoping it would be heard and recognized by his friends, or if not, considered the howl of a jungle beast by an enemy patrol should one be near.

He stood with his back against the rough bark of a teakwood tree to protect his rear and to face out toward the pitch-black night. More than once the big cadet felt the sudden ripple of a crawling thing moving around him, across his toes or down the tree trunk. There was a sudden thrashing in the underbrush near by and he brought the shock rifle up quickly, ears tuned for the growl, or scream, or hiss of an attacking beast.

The luminous dial of his watch showed it to be three thirty in the morning, two and a half hours to go before the sun would drive the fearful darkness away. He had been calling every five minutes. And every time he shouted, the movements in the darkness around him increased.

"Hal-loo-ooo!"

He waited, turning his head from one side to the other, intent on the sounds that came from a distance; the answering call of the waddling ground bird that had confused him at first until he recognized it; the shrill scream of the tiny swamp hog; the distant chattering of the monkeylike creatures in the treetops. But there was no sound from a human throat.

Astro called again and again. The seconds dragged by into minutes, the minutes into an hour, and then two hours, and finally, as every muscle in his body ached from standing backed up to the tree all night and holding his rifle on alert, the gray murky dawn broke over the jungle and he began to see the green of the jungle around him. When the sun at last broke over the Venusian horizon, the night's frost on the leaves and bushes danced and glittered like jewels.

He washed his face in a near-by pool, careful not to drink any of the water. He opened a can of synthetic food, and after eating his fill, cleared away the brush down to the naked black soil and banking it high on all sides he stretched full length on the ground. He dared not sleep. Hungry animals were moving about freely now. A paralo-ray gun and the rifle, both cocked and ready to fire, were held in his hands. He relaxed as completely as he could, idly watching the mother of a brood of the anthropoids scamper through the branches of the trees overhead, bringing her squalling young their breakfast. An hour later, refreshed, he started through the jungle again, eyes open for signs of recent activity, human activity, for the big cadet wanted to return to his comrades.

Stopping occasionally to climb a tree, Astro searched the sky above the treetops for smoke that would mark a campsite. He felt that sure if there was any, he would find Roger, Tom, and Connel, since a Nationalist patrol wouldn't advertise its presence in the jungle. But there were no smoke signs. The top of the jungle stretched green and still as far as he could see, steaming under the burning rays of the sun.

Astro knew that it would be impossible to spend another night like the first in the jungle, so after searching through the forest until three in the afternoon, he stopped, opened another can of synthetic food, and ate. He was used to being alone now. The first wave of fear had left him and he was beginning to remember things he knew as a young boy; jungle signs that warned him of dangers, the quick identification of the animal cries, and the knowledge of the habits of the jungle creatures.

After eating, he took his jungle knife and hacked at a long, tough vine, yanking it down from its lofty tangle. He started weaving it into a tight oblong basket and two hours later, just before the sun dropped into the jungle for the night, he was finished. He had a seven-foot bag woven tightly and pulled together with a small opening at one end. Just before the sky darkened, the big cadet crawled into this makeshift sleeping bag, pulled the opening closed with a tight draw cord, and in thirty seconds was asleep. Nothing would be able to bite through the tough vine matting, and the chances of a larger beast

accidentally stepping on him were small. Nevertheless, Astro had pulled the bag close to a huge tree and placed it deep between the swollen roots.

He awoke with a start. The ground was shaking violently. He was sweating profusely and judged that it must be late in the morning with the sun beating directly on him. Carefully he opened the end of the makeshift sleeping bag and peered out. He gasped and reached for his shock rifle, bringing it up into firing position. The sight that confronted him was at once horrifying and fascinating. A hundred yards away, a giant snake, easily a hundred feet long and five feet thick, was wrapped around a raging tyrannosaurus. The monsters were in a fight to death. Astro shuddered and pulled back into the bag, keeping the blaster aimed at the two struggling beasts.

The big cadet deduced that the snake must have been surprised in its feeding by the tyrannosaurus, and was trying to defend itself. There wasn't a living thing in the jungle that would deliberately attack a tyrannosaurus. Only man, with his intelligence and deadly weapons, could win over the brute force and cunning of the jungle giant. And even that had failed with this monster. Astro quickly saw it was the same beast that had chased the three cadets out of the jungle!

With three coils wrapped around the tyrannosaurus's body, the snake was trying to wrap a fourth around its neck and strangle it, but the monster was too wily. Rearing back, it suddenly fell to the ground, its weight crushing the three coils around its middle. The snake jerked spasmodically, stunned, as the tyrannosaurus scrambled up again. The ground trembled and branches were ripped from near-by trees. All around the jungle had been leveled. Everything fell before the thrashing monsters.

Recovering, the snake's head darted in again, trying to circle the tyrannosaurus's head and complete the last and fatal coil, but the giant beast lunged, its massive jaws snapping, and the snake drew back. Suddenly its tail lashed out and circled the left legs of the tyrannosaurus. Astro could see the beast straining against the sudden pressure, at the same time alert for the swooping head of the snake. The pressure on the leg was too great, and the beast fell to the ground, giving the snake a momentary advantage. Its head darted in again, but the tyrannosaurus drew its head into its narrow shoulders, then shot out again as the snake missed. Astro saw the snake quiver and jerk back as the tyrannosaurus clamped its jaws closed and bit a chunk out of the green, scaly body.

The snake had enough. It wanted to get away, to slip to the top of the tallest tree in the forest, out of reach of the tyrannosaurus, and wait for the wound to heal or for death to come. It unwound in a maddened convulsive movement and slithered toward the tree where Astro lay. But the monster was after it, immediately grabbing it by the tail and jerking it back. The snake was forced to turn and fight back.

Astro knew that if the snake could get away it would head for the teakwood above his head, the highest tree around, and the tyrannosaurus would stamp the ground around its base into powder. He had to move!

A hundred feet to the left was a wild thicket of ground thorns, their needlelike tips bristling. Even the snake would stay away from them. It was his only chance should the snake get loose from the tyrannosaurus again. Making up his mind quickly, the cadet opened the end of the sleeping bag and

shoved his weapons out before him. Then hugging the ground, he dashed across the clearing. This gave the tyrannosaurus its final advantage. The snake pulled back, momentarily attracted by Astro's move, and the tyrannosaurus struck, catching the snake just behind the head in a grip of death.

The thorns ripped at Astro's tight-fitting jungle dress, tearing into his flesh as he dove into the thicket. But once inside the cadet lay still, pointing his rifle at the tyrannosaurus who was methodically finishing off the giant snake. In a few seconds the snake was dead and the tyrannosaurus began to feast.

Astro stayed in the thicket, watching the monster devour nearly all of the dead reptile foe and then rise up and move off through the jungle. Astro knew that in no time the scavengers of the jungle would be swarming over the remains of the snake. Once again he had to move.

Getting out of the thicket was painful. From every direction the thorns jabbed at him, and but for the toughness of his jungle suit, Astro would have been ripped to shreds. After easing his way back into the clearing, the cadet pulled out the remains of his jungle pack. He then saw that his suit was torn to ribbons, and the many slashes on his chest and arms were bleeding profusely. The scent of the blood would attract the carnivorous creatures, so he stripped off the bloody jungle suit, dropping it back in the thicket, and hurried away. A short time later he came to a water hole where he sponged himself off and applied medication from his emergency kit to the scratches. Finished, he took stock. The night's sleep had refreshed him, and except for the loss of his protective clothing, he was in good shape. He shouldered the pack, strapped the paralo-ray gun to his hips, and gripping the rifle tightly, he moved off through the jungle once more. He decided to follow the tyrannosaurus. The beast would leave a path for him, saving him the effort of hacking his way through the vines and creepers, and should an enemy patrol be out, it would stay away from the tyrannosaurus. Finally, he knew Tom, Roger, and Connel would go after the beast if they saw it.

The sun shone down on the half-naked giant moving through the jungle, a new white-skinned animal who was braver than the rest, a creature who dared to trail the king of the jungle.

* * * * *

"It's all my fault!" said Connel disgustedly. "I should have been able to read his trail signs."

Tom did not answer. He pulled the straps of his jungle pack tighter and slung it over his shoulder. Roger stood to one side, watching Major Connel. Both boys sensed what was coming.

"Well, this is the last day we can spend searching for him," said Connel.

"We've already lost two days."

Roger glanced at Tom and said casually, "It wouldn't hurt to keep our eyes open for signs of him, would it, sir?"

"Now listen, boys," said Connel firmly, "I know how you feel about Astro. I have to admit I have a liking for the lad myself. But we've been sent out here to locate the base of operations of the Nationalists. The best way to do that is to work around the jungle in a given area. We haven't done that so far. We've put all our time and effort into a random search for Astro. We can't signal him, build a fire, shoot off a blaster—or use any of the simple communication devices. We have to work under cover, for fear of giving away our presence here in the jungle." He slung his gear over his shoulder and added, "We'll continue our search for Astro until noon and then we simply will have to abandon it. And stop worrying about him. He's a big strong lad and he's been in this jungle alone before. I have every confidence that he can make his way back to Sinclair's plantation safely."

The Solar Guard officer paused and looked at the two downcast cadets before him. "None of that sulking business!" he growled. "You're cadets on an urgent mission. Now move out. I'll take the point first and you bring up the rear, Corbett." Without another word, the burly spaceman turned and moved off through the jungle.

Roger hung back to talk to Tom. "What do you think, Tom?"

Tom shook his head before answering. "He's right, Roger. We're on a job. It's the same here in the jungle as it is in space. We know that something is liable to happen to any one of us at any time. And the mission always comes first."

Roger nodded. "Sure, that's the way it is in the book. But this is real. That big hick might be hurt—or trapped. Maybe he needs our help!"

"I know how you feel, Roger," replied Tom. "I want to take off and hunt for Astro myself, but Connel needs us. Don't forget that bunch of guys in uniforms back at Sinclair's. Commander Walters and the others don't hold conferences like that one back in Venusport for the fun of it. This is serious."

Roger shrugged and started off after Connel, Tom following slowly behind. Their march through the jungle was made in silence, each hoping for a miracle. But as the sun grew higher and the deadline hour of noon approached, they steeled themselves to the fact that they might never see the Venusian cadet again. A short time later, when Tom was taking his turn at cutting the trail through the brush, he broke through into a clearing. He stopped and called out, "Major! Roger! Quick!"

Connel and the blond-haired cadet rushed forward, stopping beside Tom to stare in amazement. Before them, a large area of the jungle was pounded down and lying amidst the tangle of giant creepers and uprooted bushes was the remains of a giant snake.

"By the rings of Saturn!" gasped Connel, walking forward to inspect the clearing. Tom and Roger followed, breaking to the side, their rifles at ready.

The two boys had become jungle-wise quickly and knew that death lurked behind the wall of green surrounding the cleared area.

"It must have been some fight!" Connel pointed to the tracks of the tyrannosaurus. "The tyranno must have stumbled on the snake while it was feeding," said Connel. "Otherwise it would have lit out for that tree over there." He pointed to the giant teakwood that Astro had slept under. The three spacemen saw the makeshift sleeping bag at the same time.

"Major! Look!" cried Tom and raced to the base of the tree.

"It's Astro's, all right," said Connel, examining the woven bag. "I wonder if he was here when those two things were going after each other."

"Yes, sir," said Roger in a choked whisper, "he was." He pointed to the ragged remains of Astro's jungle suit dangling on the near-by thornbush. The blood was stiff on the material.

The three Earthmen stared at the suit, each too horrified to speak.

Connel's face was set in hard lines as he finally found his voice and growled, "Our search is over. Let's get back to our job."

CHAPTER 11

It was not until late the same afternoon that Astro, following the trail of the tyrannosaurus, realized that the giant beast was seriously hurt. At first the traces of blood on the ground and underbrush were slight, but gradually the blood spots became more profuse and the trail was covered with huge blotches of red. The Venusian cadet grew more cautious. The tyrannosaurus would be ten times as dangerous now. And it might be close by, lying in the jungle, licking its wounds.

As the sun began to sink in the western Venusian sky, Astro began to think about the coming night. He would have to hole up. He couldn't chance stumbling into the beast in the dark. But it would also mean taking time to make another sleeping bag. Suddenly he saw a movement in the brush to his left. He dropped to the ground and aimed the shock rifle in that direction, eyes probing the green tangle for further movement.

"Make one move and you'll die!" a harsh voice cut through the jungle. Astro remained still, his eyes darting to left and right, trying to locate the owner of the voice.

"Throw down your gun and stand up with your hands over your head!" came another voice, this one immediately behind him.

His eyes probed the jungle for further movement

A patrol! Astro swore at himself for blindly walking into a trap and dropped his gun. He stood up and raised his hands over his head, turning slowly.

"Don't turn around! Stand still!"

Astro stopped.

He could hear the rustle of movement in the underbrush behind him and then someone called, "Circle around to the right. Spread out and see if there are any others!"

Off to the side, he could hear the crashing of footsteps moving away in the jungle.

"All right," continued the unknown voice, "drop that paralo-ray pistol to the ground. But no smart tricks. We can see you and you can't see us, so take it easy and do as we say."

Astro lowered his hands and unbuckled the gun belt, letting it fall to the ground. There was a sudden burst of movement behind him and powerful arms gripped his wrists. Within seconds his hands were tied quickly and expertly, and he was spun around to face his captors.

There were ten men, all dressed in the same green uniforms and plastic headgear he had seen at the Sinclair plantation. They stood in a semicircle around him, their guns leveled at his naked chest. The leader of the party nudged the nearest man and commented, "Never thought I'd see any animal like this in the jungle!" The other men laughed appreciatively.

"Who are you?" the leader demanded. "What are you doing here?"

"My name is Astro," replied the big cadet boldly. "I'm a Space Cadet, *Polaris* unit, Space Academy, U.S.A. I'm here in the jungle with the rest of my unit hunting tyrannosaurus."

"Tyranno, eh?" queried the man. "How long have you been trailing this one?"

"Just today. I saw him fight a big snake and lost my jungle gear in a thicket where I was hiding. I was separated from my space buddies two days ago."

"Say, Helia," suddenly called one of the other men, "he sounds like a Venusian."

"Is that true?" asked the leader. "Are you from Venus?"

Astro nodded. "Venusport."

"Then why are you in Space Academy?"

"I want to be a spaceman."

"Why didn't you go to school on Venus, instead of Earth. We have good space schools here."

"I want a commission in the Solar Guard. You can only get that through the Academy," replied Astro stoutly.

"Solar Guard!" snorted the leader, and then turned to the nearest man, speaking rapidly in a strange tongue.

For a moment the language confused Astro, then he recognized it as the ancient Venusian dialect. He understood it and started to answer, but then, on second thought, he decided not to reveal his knowledge of the language.

The leader turned back to Astro and asked a question.

Astro shook his head and said, "If you're talking to me, you have to speak English. I know that's the Venusian dialect you're speaking, but I never learned it."

The leader's fist shot out and crashed against Astro's jaw. The big cadet rocked back with the punch and then he lunged forward, straining against his bonds.

"Why, you—!" he exploded angrily.

"That was for not being a true Venusian!" snapped the leader. "Every son of Venus should understand his mother tongue!"

Astro bit his lip and fell silent.

The leader turned away, and shouting a command, started off through the jungle. Astro knew that the patrol had been ordered to move out, but he stood still, waiting for them to push him. They did. A hard jab in his naked side with the butt of a gun sent him stumbling forward in the center of the patrol.

Well, there was one consolation, he thought grimly. At least he wouldn't have to spend the night out in the jungle alone again!

Astro had expected a long march, but to his surprise, he was pushed along a well-worn jungle trail for only three hundred yards in from the tyrannosaurus's track. Finally they stopped before a huge teakwood tree. The leader pounded his rifle butt on the trunk three times.

Mystified, Astro watched a small section of the trunk open to reveal a modern vacuum-tube elevator shaft. He was pushed inside with the men of the patrol and the tree-trunk door was closed. The leader pushed a lever and the car dropped so suddenly that Astro nearly lost his balance. He judged that they must have fallen two hundred feet when the car stopped and another door opened. He was pushed out into a high-vaulted tunnel with cement walls.

"Hurry up!" snapped the leader.

The big cadet moved along the tunnel, followed by the patrol, turning from one tunnel into another, all of them slanting downhill. Astro guessed that he was being taken to some subterranean cave. He asked his captors where they were taking him.

"Don't talk!" snapped one of the men at his side.

"This jungle will be swarming with Solar Guardsmen once they discover I'm lost," said Astro. "Who are you and what are you holding me prisoner for?" The big cadet decided it would be better to feign ignorance of the existence of the rebel organization.

"Let the Solar Guard come!" snapped the leader. "They'll find something they never expected."

"But what do you want with *me*?" asked the cadet.

"You'll know soon enough!"

They had been walking for nearly an hour and the tunnels still slanted downward but more sharply now. Turning into a much larger tunnel than any of the rest, Astro noticed a huge door on one side. Through its crystal-covered ports he saw racks of illegal heat blasters and paralo-ray guns. A man stepped out of the door, and raising his hand in a form of salute, called out a few words in the Venusian tongue. Astro recognized it as a greeting, "Long live Venusians!" and suppressed a smile.

One by one, the men of the patrol handed over their rifles and ray guns, while the man in the armory checked off their names. Then they all removed their knee-length jungle boots and traded their plastic helmets for others of the

same design but of a lighter material. Each man turned his back while switching helmets, obviously to avoid being recognized by any of the others, since the new helmet was also frosted except for a slit at eye level. Wearing the lighter headgear and common street shoes, the men continued their march through the tunnel. They passed into a still larger tunnel, and for the first time, Astro could see daylight. As they drew nearer to the mouth of the tunnel, the cadet could see outside, and the scene before him made him gasp for breath.

A full twenty miles long and fifteen miles wide, a canyon stretched before him. And it seemed to the big cadet that every square inch of the canyon floor was occupied by buildings and spaceships. Hundreds of green-clad men were moving around the ships and buildings.

"By the craters of Luna!" gasped Astro as the patrol paused in the mouth of the tunnel. "What—what is this?"

"The first city of Venus. True Venus. Built by Venusians with Venusian materials only!" said the leader proudly. "There's the answer to your Solar Guard!"

"I don't understand," said Astro. "What are you going to do?"

"You'll see." The man chuckled. "You'll see. Move on!"

As they trooped out of the tunnel and down into the canyon they passed groups of men working on the many ships. The cadet recognized what they were doing at once. The unmistakable outlines of gun ports were being cut into the sides of several bulky space freighters. Elsewhere, the steady pounding of metal and grinding of machinery told the cadet that machine shops were going at full blast. He noticed a difference between the men of the patrol and the workers. Neither spoke to the other. In fact, Astro saw that it was rarely that a worker even glanced at them as they passed by.

Up ahead, Astro saw a huge building, wide and sprawling but only a few stories high. It was nearly dark now and lights began to wink on in the many windows. He guessed that he was being taken to the building and was not surprised when the leader pulled him by the arm, guiding him toward a small side door. There was a curious look about the building and the cadet couldn't figure out what it was. Glancing quickly at the wall as he passed through the door, he nearly burst out laughing. The building was made of wood! He guessed that the rebels were using materials at hand rather than importing anything from outside planets. And since Venus was largely a planet of jungles and vegetation, with few large mineral deposits, wood would be the easiest thing to use.

The inside of the building was handsomely decorated and designed. He saw walls covered with carvings, depicting old legends about the first colonists. He shook his head. "Boy," he thought, "they sure go for the Venusian stuff in a big way!"

"All right!" snapped the leader. "Stop here!"

Astro stood before a huge double door that had been polished to a brilliant luster. The cadet waited for the leader to enter, but the Nationalist stood

perfectly still, eyes straight ahead. Suddenly the doors swung open, revealing a huge chamber, at least a hundred and fifty feet long. At the far end a man dressed in white with a green band across his chest sat in a beautifully carved chair. Arrayed on either side of him were fifty or more men dressed in various shades of green. The man in white lifted his hand and the patrol leader stepped forward, pushing Astro before him. They walked across the polished floor and stopped ten feet away from the man in white, the patrol leader bowing deeply. Astro glanced at the men standing at either side of the man in white. The bulge of paralo-ray pistols was plainly visible beneath their flowing robes.

The man in white lifted his hand in the salute Astro had seen before. Then the patrol leader straightened up and began to speak rapidly in the Venusian dialect. Translating easily, Astro heard him report his capture. When he concluded, the man in white looked at Astro closely and spoke three words. Astro shook his head.

"He does not speak our mother tongue, Lactu," volunteered the patrol leader.

The man in white nodded. "How is it," he said in English, "that you are a native-born Venusian and do not speak the language of your planet?"

"I was an orphan. I had very little formal education," said Astro. "And as long as we're asking questions around here, how about my asking a few? Who in space are you? What's the idea of holding me a prisoner?"

"One question at a time, please, brother Venusian," said the man in white. "And when you address me, my name is Lactu."

"Lactu what?" asked Astro belligerently.

"Your own name should tell you that we on Venus only have one name."

"Never mind that rocket wash!" barked Astro. "When do I get out of here?"

"You will never leave here as you came," said Lactu quietly.

"What does that mean?" demanded the cadet.

"You have discovered the existence of our base. Ordinarily you would have been burned to a crisp and left in the jungle. Fortunately, you are a Venusian by birth, and therefore have the right to join our organization."

"What does that mean?"

"It means," said Lactu, "that you will take an oath to fight until death if necessary to free the planet Venus and the Venusian citizens from the slavery of the Solar Alliance and—"

"Awright, buster!" roared Astro. "I've had enough of that rocket wash! I took an oath of allegiance to the Solar Guard and the Solar Alliance, to uphold the cause of peace throughout the universe and defend the liberties of the planets. Your idea is to destroy peace and make slaves out of the people of Venus—like these dummies you've got here!" Astro gestured contemptuously at the men standing on both sides of Lactu. "I don't want any part of you, so start blasting!" continued the big cadet, his voice booming out in the big room. "But make it good, 'cause I'm tough!"

There was a murmur among the men and several put their hands on the butts of their paralo-ray guns. Even the calm expression in Lactu's eyes changed.

"You are not afraid of us, are you?" he asked in a low, almost surprised tone of voice.

"You, nor anything that crawls in the jungle like you!" shouted Astro. "If you're not happy with the way things are run on Venus, why don't you take your beef to the Solar Alliance?"

"We prefer to do it our way!" snapped one of the men near Lactu. "And as for you, a few lashes with a Venusian wet whip will teach you to keep a civil tongue!"

Astro turned around slowly, looking at each of the men individually. "I promise you," he said slowly, "the first man who lays a whip on me will die."

"And who, pray, will do the killing?" snorted a short, stout figure in the darkest of the green uniforms. "You? Hardly!"

"If it isn't me"—Astro turned to face the man—"it will be any one of a thousand Space Cadets."

"You have a lot of confidence in yourself and your friends," said Lactu. "Death apparently doesn't frighten you."

"No more than it does any man of honor," said the cadet. "I've faced death before. As for my friends"—Astro shrugged and grinned—"touch me and wait for what happens. And by the stars, mister, you can depend on it happening!"

"Enough of this, Lactu!" said a man near the end of the group. "We have important business to conduct. Take this foolish boy out and do away with him!"

Lactu waved his hand gently. "Observe, gentlemen, here is the true spirit of Venus. This boy is not an Earthman, nor a Martian. He is a Venusian—a proud Venusian who has drifted with the tides of space and taken life where he found it. Tell me honestly, gentlemen, what would you have thought of Astro, a Venusian, if he had acted any differently than he has? If he had taken an oath he does not believe and groveled at our feet? No, gentlemen, to kill this proud, freeborn Venusian would be a crime. Tell me, Astro, do you have any skills?"

"I can handle nuclear materials in any form."

"We are wasting time, Lactu!" exclaimed one of the men suddenly. "Settle with this upstart later. Now let us take a vote on the issue before us. The ship is waiting to blast off for Mercury. Do we ask for her assistance, or not?"

There was a loud murmur among the assembled men, and Lactu held up his hand. "Very well, we will vote. All in favor of asking the people of Mercury to join our movement against the Alliance will say aye!"

"Aye," chorused the men.

"Against?"

Lactu looked around, but there was no reply.

Lactu turned back to Astro. "Well, Venusian, this is your last chance to join

forces with us and to fight for your mother planet."

"Go blast your jets!" snapped Astro. Immediately Lactu's eyes became hard steely points.

"That was your last chance!" he said. "Take him out and kill him!"

The door suddenly burst open and a green-clad trooper raced across the bare floor, bowing hastily before Lactu. "Forgive this interruption, Lactu," he said breathlessly. "There are men in the jungle headed for the canyon rim. Three of them!"

Lactu turned to Astro. "Your friends, no doubt!" He snapped an order. "Capture them and bring them to me. And as for you, Astro, we are in need of capable men to build war heads for our space torpedoes. To ensure the safety of your friends, I would advise your working for us. If not, your friends will die before another night falls."

CHAPTER 12

"You're right, Tom," said Major Connel. "They must be around here somewhere. Start looking. If they're not here, it may mean he's still alive."

It was Tom who had thought of looking for Astro's weapons. Refusing to believe that his unit mate had been killed, the curly-haired cadet was examining the torn jungle suit when the idea occurred to him.

Quickly Roger, Connel, and Tom spread out over the trampled area, searching the underbrush for Astro's paralo-ray pistol or shock rifle. Connel examined the underbrush and vines closely for scorch marks made by the blaster. Finding none, he rejoined the boys.

"Well?" he asked.

"Nothing, sir," replied Roger.

"Can't find them, Major," said Tom.

Connel smacked his fists together and spoke excitedly. "I'm sure Astro wouldn't be caught unawares by a couple of things like a snake or a tyrannosaurus without putting up a fight. If he was attacked suddenly, he would have fired at least one shot, and if it went wild, it would have burned the vines and brush around here. You didn't find his weapons, and there are no scorched areas. I'll stake my life on it, Astro's alive!"

Roger's and Tom's faces brightened. They knew Connel had no proof, but they were willing to believe anything that would keep their hopes for their giant unit mate alive.

"Now," said Connel, "assuming he is not dead, and that he is somewhere in the jungle, we have to figure out what he would do."

Roger was thoughtful a moment. "How long would he last without his jungle suit, sir?"

"What do you mean?" asked Connel.

Tom's eyes lit up. "If he's alive, sir, then he's probably following a path or trail that would keep him away from heavy underbrush," he said.

Connel thought a moment. "There's only one trail away from here." He turned and pointed to the trail made by the tyrannosaurus. "That one."

The three spacemen stared at the wide path left by the huge beast. Connel hesitated. "It's due north," he said finally. "We've come a full day west and should be making a turn north. We'll follow the tyrannosaurus's trail for a full day."

Roger and Tom grinned. They knew Connel was making every effort to find Astro, while still keeping his mission in mind.

The three spacemen moved along the trail quickly, eyes alert for any sign Astro might have left. Connel saw the great bloodstains left by the tyrannosaurus and cautioned the two cadets. "This tyranno is wounded pretty badly. It might be heading back for its lair, but it might not make it, and stop along the way. Be careful and keep your eyes open for any sign that he might have—"

Connel was stopped by Tom's sudden cry. "Major! Look!"

Connel turned and stared. A thousand yards ahead of them on the broken trail they saw the monstrous bulk of a tyrannosaurus emerge from the gloom.

"By the rings of Saturn," breathed Connel, "that's the one!"

The great beast spotted the three Earthmen at the same instant. It raised itself on its hind legs, and shaking its massive head in anger, started to charge down its own trail toward them.

"Disperse!" cried Connel. "Take cover!"

Tom and Roger darted to one side of the trail while Connel dived for the other. Taking cover behind a tree, the boys turned and pointed their rifles down the trail. They saw that the tyrannosaurus had already covered half the distance between them.

"Aim for the legs!" shouted Connel, from his place of concealment. "Don't try for a head shot! He's moving too fast! Give it to him in the legs. Try to cut him down!"

Roger and Tom lay flat on the ground and trained their rifles on the approaching beast.

"I'll take the right leg," said Roger. "You take the left, Tom."

"On target!" replied Tom, squinting through the sight.

"Ready!" Connel's voice roared across the trail.

Only a hundred and fifty feet away the tyrannosaurus, hearing Connel's voice, suddenly stopped. Its head weaved back and forth as though it suspected a trap.

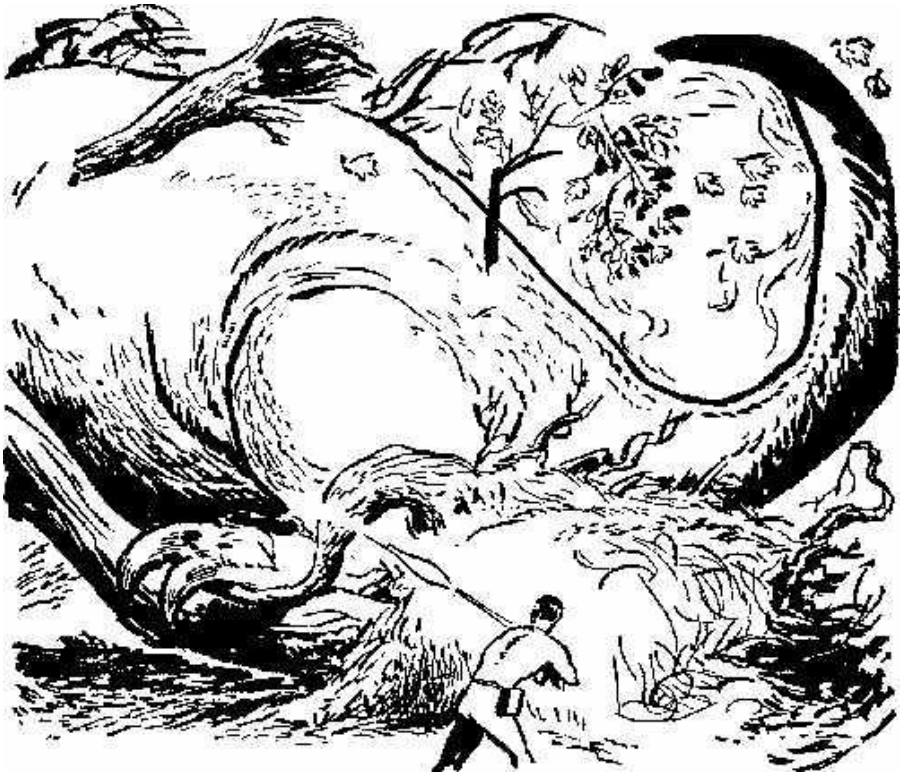
"Fire!" roared Connel.

Tom and Roger fired together, but at the same moment the monster lunged toward Connel's position. Both shots missed, the energy charges merely scorching its sides.

The tyrannosaurus roared with anger and turned toward the boys, head down and the claws of its short forelegs extended.

At that moment Connel opened fire, aiming for the monster's vulnerable neck. But it was well protected behind its shoulders and the spaceman only succeeded in drawing the beast's attention back to himself.

At this instant Tom and Roger opened fire again, sending violent shock charges into the beast's hide. Caught in the withering cross fire, it turned blindly on the boys and charged at them. The two cadets fired coolly, rapidly, unable to miss the great bulk. The air became acrid with the sharp odor of ionized air. Maddened now beyond the limits of its endurance, hit at least twenty times and wild with pain, the great king of the Venusian jungle bore down on the two cadets.



Roger and Tom saw that their fire was not going to stop the tyrannosaurus's charge. They were pouring a nearly steady stream of fire into the monster now, while on the other side of the trail Connel was doing the same, raking the monstrous hulk from the forelegs to the hindquarters.

The boys jumped back, Tom still facing the beast and firing his rifle from the waist. But Roger stumbled in the tangle of the underbrush and fell backward, dropping his rifle. The beast's head swooped low, jaws open.

Seeing Roger's danger, Tom jumped downward again without hesitation and fired point-blank at the beast's scaly head, only ten feet away.

The monster roared in sudden agony and pulled back, jerking his head up against a thick branch of the tree overhead. The limb tore loose under the impact and fell crashing to the ground on top of Roger.

From behind, Connel stepped closer to the tyrannosaurus and fired from a twenty-five-foot range. It wavered and stumbled back, obviously mortally wounded. From both sides Tom and Connel poured their weapons' power into the giant beast. Blinded, near death, the monster wavered uncertainly. Bellowing in fear and pain, it turned and lumbered back down the trail.

Connel and Tom watched it until they were certain it could not attack them without warning again, and then they hurried to Roger. The heavy tree limb

had landed across his back, pinning him to the ground.

"Roger!" yelled Tom. "Roger, are you all right?"

The blond-haired cadet didn't answer. Grabbing a stout branch lying on the ground near by, Connel and Tom worked it beneath the limb which lay across Roger's body and pried it up.

"I've got it," said Connel, holding the weight of the limb on his shoulder. "Pull him out!"

Tom quickly pulled the unconscious cadet clear and laid him on the ground. Dropping the limb, Connel bent down to examine the boy. He ran his fingers along Roger's spine, feeling the bones one by one through the skin-tight jungle suit. Finally he straightened and shook his head. "I can't tell anything," he said. "We'll have to take him back to Sinclair's right away." He stood up. "I'll make a stretcher for him. Meanwhile, you go after that tyranno and finish him off. He's pretty far gone, but you never can tell."

"Aye, aye, sir," replied Tom. He picked up his rifle and reloaded it, checking it carefully. He repeated the precaution with Roger's blaster.

"Hurry up," urged Connel, already reaching for a suitable branch. "Time means everything now."

"Be right back, sir," replied Tom. And as he walked away, he looked back at the unconscious form of his unit mate. He could not help reflecting on the bitter fact that already two members of the expedition were in danger, and they were no closer to their goal of finding the Nationalists' hidden base.

Moving carefully, one of the two rifles slung over his shoulder, the other in his hand ready for use, Tom followed the trail of the tyrannosaurus. Two thousand yards farther along he saw a place where the monster had fallen and then struggled back to its feet to stagger on. Rounding a turn in the trail, Tom stopped abruptly. Before him, not a hundred feet away, the beast lay sprawled on the ground. The area all around was devoid of any vegetation. It was trampled down to the black soil. Tom deduced that it was the beast's lair. He pressed forward cautiously until he was a scant thirty feet away, and crouched between the roots of a huge tree where he would be protected should the monster be able to rise and fight again.

Sighting carefully on the base of the monster's neck, he squeezed the trigger of the shock rifle. A full energy charge hit the tyrannosaurus in its most vulnerable spot. It jerked under the sudden blast, involuntarily tried to rise to its feet, and then fell back, the ground shaking under the impact of its thirty tons. Then, after one convulsive kick with its hind legs that uprooted a near-by tree, the beast stiffened and lay still.

Tom waited, watching the beast for signs of life. After five minutes he stepped forward cautiously, his rifle ready. He circled the tyrannosaurus slowly. The great bulk towered above him, and the cadet's eyes widened in amazement at the size of the fallen giant. Stopping at its head, which was as wide as he was tall, Tom looked at the jaws and teeth that had torn so many foes into bloody bits, and shook his head. He had come to the jungle to kill

just such a beast. But with Astro missing and Roger unconscious the thrill of victory was somehow missing. He turned and headed back down the trail.

Connel had finished the litter by the time Tom returned, and the officer was leaning over the blond-haired cadet, examining his back again.

"We'd better move out right away, Tom," said Connel. "I still can't tell what's wrong. It may be serious, and then it may be nothing more than just shock. But we can't take a chance."

Tom nodded. "Very well, sir." He adjusted his shoulder pack, slung both rifles over his shoulder, and started to pick up his end of the litter when suddenly the jungle silence was shattered by a deafening roar. Connel jumped to his feet!

"Corbett!" he cried. "That's a rocket ship blasting off!"

"It sure sounded like it, sir," replied Tom.

"And I'll stake my life it's not more than a half mile away!"

The two men jumped out into the trail and scanned the sky. The unmistakable roar of a spaceship echoed through the jungle. The ship was accelerating, and the reverberations of the rocket exhaust rolled over the treetops. Suddenly a flash of gleaming metal streaked across the sky and Connel roared.

"We've found it, Corbett!" He slapped the cadet on the back. "The Nationalists' base! We've found it!"

Tom nodded, a half-smile on his face. "We sure have, Major." He hesitated a moment. "You know, sir, if Roger is really badly hurt we might not make it back to Sinclair's in time, so—" He stopped.

"I know what you're thinking, Tom," said the officer, "and I agree. But one of us has to go back with the information."

"You go, sir," said Tom. "I'll take Roger and—"

"You can't carry him alone—"

"I can make it somehow," protested Tom.

Connel shook his head. "I'll help you."

"You mean, you're going to allow yourself to be captured too?" spluttered Tom.

"Not quite." Connel smiled. "But a good intelligence agent gets as much information as he can. And he gets correct information! I'll help you get him to the base and you can take him on in for medical attention. I'll get back to Sinclair's later."

Tom tried to protest, but the burly spaceman had turned away.

CHAPTER 13

"Stand where you are!"

Tom and Major Connel stiffened and looked around, the unconscious form of Roger stretched between them on the litter. From the jungle around them, green-clad Nationalists suddenly emerged, brandishing their guns.

"Put Roger down," muttered Connel quietly. "Don't try anything."

"Very well, sir," replied Tom, and they lowered the litter to the ground gently.

"Raise your hands!" came the second command from a man who appeared directly in front of them.

Standing squarely in front of them, the little man said something in the Venusian dialect and waited, but Connel and Tom remained silent.

"I guess you don't speak the Venusian tongue," he sneered. "So I'll have to use the disgusting language of Earth!" He looked down at the unconscious form of Roger. "What happened to him?"

"He was injured in a fight with a tyrannosaurus," replied Connel. "May I remind you that you and these men are holding guns on an officer of the Solar Guard. Such a crime is punishable by two years on a prison asteroid!"

"You'll be the one to go to prison, my stout friend!" The man laughed. "A little work in the shops will take some of that waistline off you!"

"Are you taking us prisoner?"

"What do you think?"

"I see." Connel seemed to consider for a moment. "Who are you?" he asked.

"I am Drifi, squad officer of the jungle patrol."

"Connel, Senior Officer, Solar Guard," acknowledged Connel. "If we are being held prisoner, I wish to make a request."

"Prisoners don't make requests," said Drifi, and then added suspiciously, "What is it?"

"See that this man"—Connel indicated Roger—"is given medical attention at once."

Drifi eyed the major cautiously.

"I make this request as one officer to another," said Connel. "A point of honor between opponents."

Drifi's eyes gleamed visibly at the word *officer*, and Tom almost grinned at Connel's subtle flattery.

"You—and you," snapped Drifi at the green-clad men around them, "see

that this man is taken to the medical center immediately!" Two men jumped to pick up the litter.

"Thank you," said Connel. "Now will you be so kind as to tell me what this is all about?"

"You'll find out soon enough. We have a special way of treating spies."

"Spies!" roared Connel. The officer sounded so indignant that Tom was almost fooled by his tone. "We're hunters! One of our party is lost here in the jungle. We were searching for him when we were attacked by a tyrannosaurus. During the fight, this man was injured. We're not spies!"

Drifi shrugged his shoulders, and barking a command to his men, turned into the jungle. Connel and Tom were forced to follow.

They were taken to the giant teakwood that Astro had seen, and Tom and Connel watched silently as the door opened, revealing the vacuum tube. The men crowded into the car and it dropped to the lower level.

Following the same twisting turns in the tunnels, Tom and Connel were brought to the armory and saw the men surrender their weapons and change their helmets and shoes. They tried desperately to get a look at the faces of the men around them while the headgear was being changed, but, as before, the men were careful to keep their faces averted.

Continuing down the tunnel, Connel tried to speak to Drifi again. "I would appreciate it greatly, sir," he said in his most formal military manner, "if you could give me any news about the other man of our party. Have you seen him?"

Drifi did not answer. He marched stiffly ahead, not even bothering to look at Connel.

As they neared the exit, Connel drifted imperceptibly closer to Tom and whispered out of the side of his mouth, "Keep your eyes open for ships. Count as many as you can. How many are armed, their size, and so on. Look for ammunition dumps. Check radar and communications installations. Get as much information as you can, in case only one of us can escape."

"Yes, sir," whispered Tom. "Do you think they might have Astro?"

"It's a good guess. We were following the tyrannosaurus's trail when they caught us, and I'm pretty sure Astro had been doing the same thing."

"Stop that talking!" snapped Drifi, suddenly whirling on them. "You," he shouted at one of the guards, "get up here and keep them apart!"

A guard stepped quickly between Tom and Connel, and the conversation ended.

At the exit Connel and Tom stopped involuntarily at the sight before them. Astro had entered the canyon near twilight, but the two spacemen got a view of the Nationalists' base under the full noon sun. Connel gasped and muttered a space oath. Tom turned halfway to his superior and was starting to speak when both were shoved rudely ahead. "Keep moving," a guard growled.

As they walked, their eyes flicked over the canyon, alert for details. Tom counted the ships arrayed neatly on the spaceport some distance away, then

counted others outside repair shops with men scurrying over them like so many ants. Near the center of the canyon the bare trunk of a giant teakwood soared skyward, a gigantic communications tower. Tom scanned the revolving antenna, and from its shape and size deduced the power and type of radar being used at the base. He admitted to himself that the Nationalists had the latest and best. Connel was busy too, noting buildings of identical design scattered around the canyon floor that were too small to be spaceship hangars or storage depots. He guessed that they were housings for vacuum-tube elevator shafts that led to underground caves.

The canyon echoed with the splutter of arc welders, the slow banging of iron workers, the cough and hissing of jet sleds, the roar of activity that meant deadly danger to the Solar Alliance. Connel noticed as he moved across the canyon floor that the workers were in good spirits. The morale of the rebels, thought the space officer, was good! Too good!

At a momentary halt in their march, when Drifi stopped to speak with a sentry, Tom and Connel found an opportunity to speak again.

"I've counted a dozen big converted freighters on the blast ramps, sir," whispered Tom hurriedly. "Three more being repaired, nearly finished, and there are about fifty smaller ships, all heavily armed."

"That checks with my count, Tom," replied Connel hurriedly. "What do you make of the radar?"

"At least as good as we have!"

"I thought so, too! If a Solar Guard squadron tried to attack this base now, they'd be spotted and blasted out of space!"

"What about stores, sir?" asked Tom. "I didn't see anything like a supply depot."

Connel told him of the small buildings which he believed housed the elevator shafts to underground storerooms. "Only one thing is missing!" he concluded.

"What's that, sir?"

"The nuclear chambers where they produce ammunition for their fleet."

"It must be underground too, sir," said Tom. "There isn't a building in the canyon that's made of concrete and steel."

"Right. Either that, or it's back up there in the cliffs in one of those tunnels!" The officer snorted. "By the stars, Corbett, this place is an atom bomb ready to go off in the lap of the Solar Alliance."

"What are we going to do, sir?" asked Tom. "So far, it looks as if it's going to be tough to get out again."

"We'll have to wait for a break, Tom," sighed Connel.

"I hope they've taken good care of Roger," said the cadet in a low voice. "And I hope they've got Astro."

"Watch it," warned Connel. "Drifi's coming back. Remember, if we're separated and you do manage to escape, get back to Sinclair's. Contact Commander Walters and tell him everything that's happened. The code name

for direct emergency contact through Solar Guard communications center in Venusport is Juggernaut!"

"Juggernaut!" repeated Tom in a whisper. "Very well, sir. But I sure hope we aren't separated."

"Well have to take what comes. *Sh!* Here he comes."

"All right, let's go," said the patrol leader.

They continued across the canyon until they reached a four-story wooden structure without windows. Drifi opened a small door and motioned them inside.

"What is this?" Connel demanded.

"This is where you'll stay until Lactu sends for you. Right now, he is in conference with the Division Leaders."

"Divisions of what? Ships? Men?" asked Connel offhandedly, trying not to show any more than idle curiosity.

"You'll find out when the Solar Guard comes looking for a fight," said Drifi. "Now get in there!"

Tom and Connel were shoved inside and the door closed behind them. It was pitch black, and they couldn't see an inch in front of their faces. But both Tom and Connel knew instantly that they were not alone.

* * * * *

"Come on. Gimme that wrench!" barked Astro. The little man beside him handed up the wrench and leaned over the side of the engine casing to watch Astro pull the nut tight. "Now get over there and throw on the switch," snapped the big cadet.

The little man scurried over to one side of the vast machine shop and flipped on the wall switch. There was an audible hum of power and then slowly the machine Astro had just worked on began to speed up, soon revving up to ten thousand revolutions per minute.

"Is it fixed?" demanded the shop foreman, coming up beside Astro.

"Yeah, she's fixed. But I don't work on another job until you give me another helper. That asteroid head you gave me doesn't know a—" Astro stopped. Something out beyond the double doors caught his eye. It was the sight of Tom and Connel entering the wooden building.

"What's the matter with him?" demanded the foreman.

"Huh? What? Oh—ah—well, he's O.K., I guess," Astro stammered. "It's just that he's a little green, that's all."

"Well, get to work on that heater in chamber number one. It's burned a bearing. Change it, and hurry up about it!"

"Sure—sure!" The big cadet grinned.

"Say, what's the matter with you?" asked the foreman, staring at him suspiciously.

"I'm O.K.," replied Astro quickly.

The foreman continued to stare at Astro as the big cadet turned to his assistant nonchalantly. "Come on, genius, get that box of tools over to the heater!" he shouted. As he turned away, the foreman nodded to the green-clad guard, who followed closely behind Astro, his hand on the butt of his paralo-ray gun.

Seeing the little assistant struggling with the heavy box, Astro stopped and picked it out of his arms with one hand. Grinning, he held it straight out and then slowly brought it around in a complete circle over his head, still holding it with only one hand. The guard's eyes widened behind his plastic helmet at this show of strength.

"You're very strong, Astro," he said, "but you are altogether too contemptuous of a fellow Venusian." He nodded to the small assistant.

"That's right," said Astro. His grin hardened and he leaned forward slightly, balancing on the balls of his feet. "That goes for you and every other green space monkey in this place. Drop that ray gun and I'll tie you up in a knot!"

Frightened, the guard pulled the paralo-ray gun out of its holster, but Astro quickly stepped in and sank his fist deep into the guard's stomach. The man dropped like a stone. Astro grinned and turned his back to walk toward the heater. He heard the other workers begin to chatter excitedly, but he didn't pay any attention to them.

"Astro! Astro!" His little assistant ran up beside him. "You hit a division guard!"

"I did, huh?" replied the big cadet in an innocent tone. "What kind of a division?"

"Don't you know? Venus has been divided into areas called divisions. Each division has a chief, and every Venusian citizen in that division is under his personal jurisdiction."

"Uh-huh," said Astro vaguely. He climbed up on to the machine and began taking off the outer casing.

"The best men in the division are made the Division Chief's personal guards."

"What happens to the second and third and fourth best men?"

"Well, they're given jobs here according to their knowledge and capacities."

"What was your job before you came here?"

"I was a field worker on my chief's plantation."

"Why did you join?" asked Astro. "Did you think it better to have Venusians ruling Venus, instead of belonging to the Solar Alliance?"

"I didn't think about it at all," admitted the little man. "Besides, I didn't join. I was recruited. My chief just put me on a ship and here I am."

"Well, what do you think of it, now that you're here?" asked Astro. He began running his fingers along a few of the valves, apparently paying no

attention to the guard who was just now staggering to his feet.

The little assistant paused and considered Astro's question. Finally he replied weakly, "I don't know. It's all right, I guess. It's better here in the shops than in the caves where the others go."

"Others? What others?"

"Those that don't like it," replied the man. "They're sent to the caves."

"What caves?"

"Up in the cliff. The tunnels—" He suddenly stopped when an angry shout echoed in the machine shop. The guard Astro had hit rushed up. He turned to several workmen near by. "Take this blabbering idiot to the caves!" he ordered angrily.

Astro slowly climbed down from the machine and faced the guard menacingly. As the guard's finger tightened on the trigger of his paralo-ray gun, the foreman suddenly rushed up and knocked the gun out of his hand. "You fool! You stiffen this man and we'll be held up in production for hours!"

"So what!" sneered the guard.

"Lactu and your Division Chief will tell you so what!" barked the foreman. He turned to Astro. "And as for you, if you try anything like that again, I'll—"

"You won't do a thing," said Astro casually. "I'm the best man you've got and you know it. Lactu knows it too. So don't threaten me and keep these green space jerks away from me! I'll fix your machines, because I want to, not because you can make me!"

The foreman eyed the big cadet curiously. "Because you want to? You've changed your tune since you first came here."

"Maybe," said Astro. "Maybe I like what I see around here. It all depends."

"Well, make up your mind later," barked the foreman. "Now get that machine fixed!"

"Sure," said Astro simply, turning back to the machine and starting to whistle. Strangely enough, he was happy. He was a prisoner, but he felt better than he had in days. Just knowing that Tom and Major Connel were right across the canyon gave him a surge of confidence. Working over the machine quickly, surely, the big cadet began to formulate a plan. Now was the time! They were together again. Now was the time to escape!

CHAPTER 14

"Put your back against the door, Tom!" snapped Connel. "Quickly!"

Tom felt the powerful grip of the Solar Guard officer's fingers on his arm as he was pulled backward. He closed his eyes, then opened them, hoping to pierce the darkness, but he saw nothing. Beside him, he could sense the tenseness in Connel's body.

There was a rustle of movement to the right of them.

"Careful, Tom," cautioned Connel. "To your right!"

"I hear it, sir," said Tom, turning toward the noise and bracing himself.

"My name is Connel," the burly spaceman suddenly spoke up in loud tones. "I'm an official in the Solar Guard! Whoever you are, speak up! Identify yourself."

There was a moment of silence and then a voice spoke harshly in the darkness.

"How do we know you're a Solar Guard officer? How do we know you're not a spy?"

"Do you have any kind of light?" asked Connel.

"Yes, we have a light. But we are not going to give away our positions. We know how to move in here. You don't."

"Then how do you expect me to prove it?"

"The burden of proof lies with you."

"Have you ever heard of me?" asked Connel after a pause.

"We know there is an officer in the Solar Guard named Connel."

"I am that officer," asserted Connel. "I was sent into the jungle to find this base, but one of our party was injured and we were captured by a patrol."

Tom and Connel heard voices whispering in the darkness and then a loud order.

"Lie down on the floor, both of you!"

The two spacemen hesitated and then got down flat on their backs.

"Close your eyes and lie still. One of us here knows what Connel looks like. I hope for your sake that you're telling the truth. If you're not—" The voice stopped but the threat was plain.

"Do as they say, Tom," said Connel.

The cadet closed his eyes and he heard the shuffle of feet around them. Suddenly there was a flash of light on his face but he kept his eyes tightly closed. The light moved away, but he could tell that it was still burning.

"It's Connel, I think," said a high-pitched voice directly over them.

"Are you sure?"

"Pretty sure. I met him once in Atom City at a scientific meeting. He was making a speech with a Professor Sykes."

"That's right," said Connel, hearing the remark. "I was there."

"Do you remember meeting a man from Venus wearing a long red robe?" asked the high-pitched voice.

Connel hesitated. "No," he said. "I only remember talking to three men. Two were from Venus and one was from Mars. But neither of the two from Venus wore a red robe. They wore purple—"

"He's right," acknowledged the voice. "This is Connel."

"Open your eyes," said the first voice.

Connel and Tom opened their eyes and in the light of a small hand torch they saw two gaunt faces before them. The tallest of the men stuck out a bony hand. "My name is Carson." They recognized his voice as the one that had spoken first. "And this is Bill Jensen," he added.

"This is Tom Corbett, Space Cadet," said Connel. He glanced around the room, and in the weak reflected light of the torch, saw almost fifty men crouched against the walls, each of them holding a crude weapon.

"You'll understand our caution, Major," said Carson. "Once before we had a plan to escape and a spy was sent in. As you see, we didn't escape."

"Neither did the spy," commented Jensen grimly.

"How long have you been here?" asked Connel.

"The oldest prisoner has been here for three years," replied Carson. And as the other men began to gather around them, Connel and Tom saw that they were hardly more than walking skeletons. Their cheeks were hollow, eyes sunk in their sockets, and they wore little more than rags.

"And there's no way to escape?" asked Tom.

"Three guards with blasters are stationed on the other side of that door," said Carson. "There is no other entrance or exit. We tried a tunnel, but it caved in and after that they put in a wooden floor." He stamped on it. "Teak. Hard as steel. We couldn't cut through."

"But why are you being held prisoners?" asked Connel.

"All of us joined the Nationalists believing it was just a sort of good-neighbor club, where we could get together and exchange ideas for our own improvement. And when we found out what Lactu and the Division Chiefs were really up to, we tried to quit. As you see, we couldn't. We knew too much."

"Blasted rebels!" muttered Connel. "The Solar Guard will cool them off!"

"I'm afraid it's too late," said Carson. "They're preparing to strike now. I've been expecting it for some time. They have enough ships and arms to wipe out the entire Solar Guard garrison here on Venus in one attack!" He shook his head. "After that, with Solar Guard ships and complete control of the planet—" He paused and sighed. "It will mean a long, bloody space war."

Tom and Connel plied the prisoners with questions and soon began to get a

complete picture of the scope of the Nationalist movement.

"Lactu and his commanders should be sent to a prison asteroid for life," said Carson, "for what they have done to former Nationalists."

"Hundreds of unsuspecting Venusians have been brought here under the guise of helping to free Venus. But when they come and recognize what Lactu really intends to do, they want to quit. But it's too late, and they're sent to the caves."

Tom looked at the gaunt man fearfully. There was something in his voice that sent a chill down his spine.

"They are driven like cattle into the canyon walls," continued Carson. "There they are forced to dig the huge underground vaults for storage dumps. They are beaten and whipped and starved."

"Why aren't you in the caves then?" asked Connel.

"Some of us were," replied Carson. "But each of us here owns land and it is necessary to keep us alive to send back directives to our bankers and foremen to give aid in one form or another to Sharkey and the Division Chiefs."

"I see," said Connel. "If you were to die, then your property would be out of their reach."

"Exactly," said Carson.

"Is Sharkey the real leader of the movement?"

"I don't believe so. But then, no one knows. That's the idea of the frosted helmets. If you don't know who a man is, you can liquidate him without conscience. He may be your closest friend, but you would never know it."

"The blasted space crawlers!" growled Connel. "Well, they'll pay!"

"You have a plan?" asked Carson eagerly.

"No," said Connel slowly, "but at least we all have more of a chance now."

"How?" asked Carson.

"The Solar Guard sent us here to find this base. If we don't return, or send some sort of message back within a reasonable time, this jungle will be swarming with guardsmen!"

Carson looked a little disappointed. "We shall see," he said.

* * * * *

There were three things on Astro's mind as twilight darkened into night over the canyon. One, he had to find out why Roger wasn't with Tom and Connel when they were taken into the building; two, he had to figure out a way to contact Tom and Connel; and finally, he had to escape himself, or help Tom and Connel escape.

The big cadet finished the last job in the machine shop. It had taken very little time, but the big cadet had lingered over it, trying to find answers to his

three problems. Around him, the workers were leaving their benches and lathes, to be replaced by still others. A twelve-hour shift was being used by the Nationalists in their frantic preparations for an attack on the Venusport garrison of the Solar Guard. Astro finally dropped the last wrench into the tool kit and straightened up. He stretched leisurely and glanced over at his guard. The man was still rubbing his stomach where Astro had hit him, and he watched the big cadet with a murderous gleam in his eye.

"All finished," said Astro. "Where and when do I eat?"

"If I had my way, you wouldn't," sneered the guard.

"Either I knock off and eat," said Astro confidently, "or I call the foreman and you talk to Lactu."

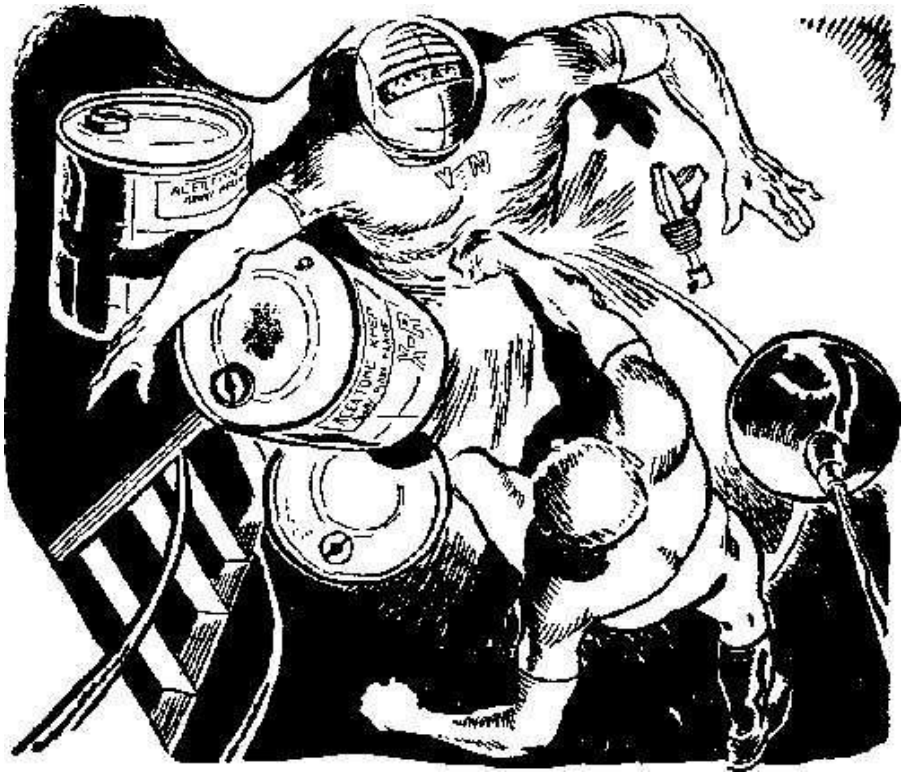
"Feeling pretty big, aren't you?" growled the guard. "I haven't forgotten that punch in the stomach."

"Why, I hardly touched you," said Astro in mock surprise.

The guard glared at him, muttered an oath, and turned away. Astro could see that he was boiling, almost out of his mind with helpless, frustrated anger, and suddenly the young cadet realized how he would be able to move about the base freely. Grinning, he walked arrogantly in front of the guard and out of the shop into the dark Venusian night. It was very warm and many of the workers had stripped down to their trousers. He passed the open doorway of a large tool shop and glanced inside. It was empty. The men had apparently gone to eat. He suddenly stopped, turned to the guard, and growled, "If you want to settle our differences now, we can step inside."

The guard hesitated and glared at Astro. "When I settle with you, big boy, you'll know about it."

"What's the matter with right now?" asked Astro. "Yellow?" He turned and walked into the tool shop without looking back. The guard rushed after him. But the big cadet had carefully gauged the distance between them, and when he heard the rushing steps of the guard immediately behind him, he suddenly spun around, swinging a roundhouse right, catching the guard in the pit of the stomach again. The man stopped dead in his tracks. His eyes bulged and glazed, and he dropped to the floor like a stone. Astro pulled the man to the corner of the empty shop, removed the plastic helmet, and then tied and gagged him. He pulled the helmet over his own head, nearly tearing one ear off, grabbed the gun and stepped back outside. He stood in front of the door and glanced up and down the area between the buildings. Fifty feet away a group of men were working over a tube casing, but they didn't even look up.



Staying in the shadows, he walked down the lane, moving carefully. The plastic helmet would keep him from being recognized right away, but to complete his plan, he needed one of the green uniforms of the guards.

Deciding it would be too risky to walk around the base, he crouched behind a huge crate of machinery at the head of the lane. Sentries were constantly patrolling the area and he was certain that one would pass by soon. He only hoped the man would be big enough. Fifteen minutes later the cadet heard footsteps in a slow measured tread. He peered around the edge of the crate and silently breathed a thankful prayer. It was a green-clad guard, and luckily, almost as big as he was.

Crouching in the shadow of the crate, Astro tensed for the attack. It had to be quick and it had to be silent. He couldn't club the guard because of his helmet. He would have to get him around the throat to choke off any outcry.

The slow steps came nearer and the big cadet raised himself on the balls of his feet, ready to spring. When the guard's shadow fell across him, Astro leaped forward like a striking tiger.

The guard didn't have a chance. Astro's arm coiled around his throat and the cry of alarm that welled up within him died down in a choking gasp. Within seconds he was unconscious and the big cadet had dragged him behind the

crate. He stripped him of his uniform, bound and gagged him with his own rags, and crammed him into the crate. Then, protected by the helmet and green uniform and carrying the blaster, the cadet stepped out confidently and strode down the lane.

He went directly to the building he had seen Tom and Connel enter, and walked boldly up to the guard lounging in front of the door.

"You're relieved," said Astro in the Venusian dialect. "They want you up in the caves." The cadet had no idea where the caves were, but he knew that they couldn't be near by and it would be some time before an alarm could be sounded.

"The caves?" asked the guard. "Who said so?"

"The chief. He wants you to identify somebody."

"Me? Identify someone? I don't understand." The guard was puzzled. "What section of the caves?"

"The new section," said Astro quickly, figuring there must be a new and an old section because he had heard a guard refer to the old one.

"Up by the jungle tunnels?"

Astro nodded.

"Must be more of those Solar Guardsmen," said the guard, relaxing. "We have two of them in here, another in the hospital, and one of them working in the machine shop."

Hospital! Astro gulped. That would be Roger. But he dared not ask too many questions. "What's going to happen to them?" he asked casually.

"I don't know," said the guard, "but I wish we'd hurry up and attack Venusport. I'm getting tired of living out here in the jungle."

"Me too," said Astro. "Well, you'd better get going."

The guard nodded and started to walk away. Suddenly Astro stiffened. Two other guards were rounding the corner of the building. He called to the departing guard quickly. "Who's on duty with you tonight?"

"Maron and Teril," replied the guard, and then strode off into the darkness.

"So long," said Astro, turning to face the two men walking toward him. He would have to get rid of them.

"Hello, Maron, Teril," he called casually. "Everything quiet?"

"Yes," replied the shorter of the two, as they stopped in front of Astro, "no trouble tonight."

"Well, there's trouble now!" growled Astro. He brought up the blaster and cocked it. "Make one wrong move, and you're dead little space birds! Get over there and open that door!"

Stunned, both men turned to the door without a protest and Astro took their guns. "Open up!" he growled.

The men slid the heavy bar back and pushed the door open.

"Get inside!" ordered Astro. The two men stumbled inside. Astro stepped to the door. "Tom! Major!"

There was a cry of joy from the blackness within and Astro recognized

Tom.

"Astro!" roared Connel, rushing up. "What in the stars—?"

"Can't talk now," said Astro. "Here. Take these blasters and then tie these two up. Close the door, but leave it open a crack. We can talk while I stay outside and keep watch. If there isn't a guard out here, it might mean trouble."

"Right," said Connel. He took the blasters, tossing one over to Tom. "Blast it, I never felt anything so good in my life!" He closed the door, leaving it open an inch.

"Why is Roger in the hospital?" asked Astro quickly.

Connel told him of the fight with the tyrannosaurus and Roger's injury, ending with their capture by the patrol.

"You know what's going on here, Major?" asked Astro.

"I sure do," said Connel. "And the sooner we blast them, the happier I'll be."

"One of us will have to escape and get back to the *Polaris* to contact Commander Walters," said Astro. "But they've got radar here as good as ours. That has to be put out of commission or they can blast any attacking fleet."

"You're right," said Connel grimly, and turned back into the room. "Tom!" he called.

"Yes, sir," replied Tom, coming up to the door.

"Since Astro and I speak Venusian—" said Connel, and then added when Tom gasped, "Yes, I speak it fluently, but I kept it a secret. That means you're the one to go. Astro and I will have more of a chance here. You escape and return to the *Polaris*. Contact Commander Walters. Tell him everything that's happened. We'll give you thirty-six hours to make it. At exactly noon, day after tomorrow, we'll knock out their radar."

"But how, sir?" asked Tom.

"Never mind. We'll figure out something. Just get back to the *Polaris* and tell the Solar Guard to attack at noon, day after tomorrow. If you don't and the fleet attacks earlier, or later, they'll be wiped out."

"What about you, sir?" asked Tom.

"If you get back in time, we'll be all right. If not, then this is good-by. We'll hold out as long as we can, but that can't be forever. We're fighting smart, determined men, Tom. And it's a fight to the finish. Now hurry up and get into one of those uniforms."

While Tom turned back inside to put on the uniform, Connel returned to Astro outside the door. "Think we can do it, Astro?"

"I don't see why not, sir," replied the big cadet.

A moment later Tom returned, dressed in one of the guard's green uniform and wearing a helmet. Carson was with him, similarly clad. "Astro better show me the way out of the base," said Tom. "Carson will stand guard until he gets back."

"Good idea," said Connel. Tom and Carson slipped out the door.

"All set, Astro?" asked Tom.

"Yeah, there's only one thing wrong," replied the big cadet.
"What's the matter?" asked Connel.
"I don't know the way out of the base."

CHAPTER 15

"I can tell you the way out of the base."

Adjusting the plastic helmet over his head, Carson stepped up close to Astro and Tom and spoke confidently. "It's very simple."

"Whew!" exclaimed Tom. "I thought we'd have to go fumbling around."

Carson pointed through the darkness. "Follow this lane straight down until you come to a large repair lock. There's a space freighter on the maintenance cradle outside. You can't miss it. Turn left and follow a trail to the base of the canyon wall. There are jungle creepers and vines growing up the side and you can climb them easily."

Tom nodded and repeated the directions, then turned to Astro. "Maybe you'd better stay here, Astro. I can make it alone."

"No." Connel spoke sharply from the doorway. "Astro speaks Venusian. If you're stopped, he can speak for you. You'd give yourself away."

"Very well, sir," said Tom. "I guess that is best. Ready to go, Astro?"

"Ready," replied the big cadet.

"Good-by, Major," said Tom, reaching into the doorway to shake hands with Connel. "I'll try my best."

"It's a matter of life and death, Tom." Connel's voice was low and husky. "Not our lives, or the lives of a few people, but the life and death of the Solar Alliance."

"I understand, sir." Tom turned to Astro and the two cadets marched off quickly.

They had no difficulty finding the giant ship on the cradles outside the repair shop and quickly turned toward the base of the cliff. Twenty minutes later they had left the center of activity and were close to the canyon wall. They were congratulating themselves on their luck in not being stopped or questioned when suddenly they saw a guard ahead of them on sentry duty.

"Ill take care of him," whispered Astro. "You hide here in the shadows, and when I whistle, you start climbing. Then I'll cover you from there until you get to the top. Got it?"

"Right!" The two cadets shook hands briefly. Each knew that there was no need to speak of their feelings. "Take care of Roger," said Tom. "We don't know how badly he's been injured."

"I'll see to him," said Astro. "Watch me now and wait for my whistle." He turned away and then paused to call back softly, "Spaceman's luck, Tom."

"Same to you, Astro," replied Tom, and then crouched tensely in the

shadows.

The big cadet walked casually toward the sentry, who spotted him immediately and brought his gun up sharply, calling a challenge in the Venusian tongue.

"A friend," replied Astro in the same dialect.

The sentry lowered the gun slightly. "What are you doing out here?" he asked suspiciously.

"Just taking a walk," said Astro. "Looking for something."

"What?" asked the sentry.

"Trying to make a connection."

"A connection? What kind of connection?"

"This kind!" said Astro suddenly, chopping the side of his hand down on the sentry's neck, between the helmet and his uniform collar.

The sentry fell to the ground like a poleaxed steer and lay still. Astro grinned, then turned and went whistling off into the darkness. Twenty feet away Tom heard the signal and hurried to the base of the cliff. He grabbed a thick vine and pulled himself upward, hand over hand. Halfway up he found a small ledge and stopped to rest. Below him, he could see Astro hurrying back toward the center of the base. The dim lights and the distant hum of activity assured him that so far his escape was unnoticed. He resumed his climb, and fifteen minutes later the curly-haired cadet stood on the canyon rim. After another short rest he turned and plunged into the jungle.

Tom knew that as long as he kept the planet of Earth over his right shoulder, while keeping the distant star of Regulus ahead of him, he was traveling in the right direction to Sinclair's plantation. He stopped to check his bearings often, occasionally having to climb a tree to see over the top of the jungle. He ignored the threat of an attack by a jungle beast. For some reason it did not present the danger it had when he had first entered the jungle, seemingly years before. Under pressure, the cadet had become skilled in jungle lore and moved with amazing speed. He kept the blaster ready to fire at the slightest movement, but fortunately during the first night he encountered nothing more dangerous than a few furry deerlike animals that scampered behind him off the trail.

Morning broke across the jungle in a sudden burst of sunlight. The air was clear and surprisingly cool, and Tom felt that he could make the Sinclair plantation by nightfall if he continued pushing full speed ahead.

He stopped once for a quick meal of the last of the synthetics that he had stuffed in his pocket from his shoulder pack, and then continued in a steady, ground-eating pace through the jungle. Late in the afternoon he began to recognize signs of recent trail blazing, and once he cut across the path Astro had made. He wondered if the trail was one Astro had cut while he was lost, or previously. He finally decided to go ahead on his own, since he had managed to come this far without the aid of any guide markers.

As the darkening shadows of night began to spread over the jungle the

young cadet began to worry. He had been allowed thirty-six hours to make it back to the *Polaris*, communicate with Commander Walters, and tell him the position of the base, and Tom had to allow time for the Solar Guard fleet to assemble and blast off, so that it would arrive at the base at exactly noon on the next day. He had to reach the Sinclair plantation before nightfall or the fleet would never make it.

Suddenly to his left he heard a noisy crashing of underbrush and the roar of a large beast. Tom hesitated. He could hide; he could fight; or he could break to his right and try to escape. The beast growled menacingly. It had picked up his scent. Tom was sure it was a large beast on the prowl for food, and he decided that he could not waste time hiding, or risk being injured in a battle with the jungle prowler. He quickly broke to his right and raced through the jungle. Behind him, the beast picked up the chase, the ground trembling with its approach. It began to gain on him. Tom was suddenly conscious of having lost his bearings. He might be running away from the clearing!

Still he ran on, legs aching and lungs burning. He charged through the underbrush that threatened any moment to trip him. When he was almost at the point of complete exhaustion, and ready to turn and face the beast behind him, he saw something that renewed his spirit and sent new strength through his body. Ahead through the vines and creepers, the slender nose of the *Polaris* was outlined against the twilight sky.

Disregarding the beast behind him, he plunged through the last few feet of jungle undergrowth and raced into the clearing around the Sinclair home. Behind him, the beast suddenly stopped growling, and when Tom reached the air lock of the *Polaris*, he saw that the beast had turned back, reluctant to come out of the protection of the jungle.

Tom pulled the air-lock port open and was about to step inside when he heard a harsh voice coming from the shadow of the port stabilizer.

"Just stop right where you are!"

Tom jerked around. Rex Sinclair stepped out of the shadow, a paralo-ray gun in his hand.

"Mr. Sinclair!" cried Tom, suddenly relieved. "Boy, am I glad to see you!" He jumped to the ground. "Don't you recognize me? Cadet Corbett!"

"Mr. Sinclair!" cried Tom, suddenly relieved

"Yes, I recognize you," snarled Sinclair. "Get away from that air lock or I'll blast you!"

Tom's face expressed the confusion he felt. "But, Mr. Sinclair, you're making a mistake. I've got to get aboard and warn—" He stopped. "What's the idea of holding a paralo ray on me?"

"You're not warning anybody!" Sinclair waved the gun menacingly. "Now get over to the house and walk slowly with your hands in the air or I'll freeze you solid!"

Stunned by this sudden turn of events, Tom turned away from the air lock. "So you're one of them, too," said Tom. "No wonder we were caught in the jungle. You knew we were looking for the base."

"Never mind that," snapped Sinclair. "Get into the house and make it quick!"

The young cadet walked slowly toward the house. He saw the charred remains of the burned outbuildings and nodded. "So it was all an act, eh? You had your buildings burned to throw us off the track. Small price to pay to remain in the confidence of the Solar Guard."

"Shut up!" growled Sinclair.

"You might be able to shut me up, but it'll take a lot more than a bunch of rabble rousers to shut up the Solar Guard!"

"We'll see," snapped Sinclair.

They reached the house and Tom climbed the steps slowly, hoping the planter would come close enough for a sudden attack, but he was too careful. They moved into the living room and Tom stopped in surprise. George Hill and his wife were tied hand and foot to two straight-backed chairs.

Tom gasped. "George! Mrs. Hill!"

George Hill strained against his bonds and mumbled something through the gag in his mouth, but Tom couldn't understand what he was trying to say. Mrs. Hill just looked at the planter with wide, frightened eyes. The cadet whirled around angrily. "Why, you dirty little space rat!"

Sinclair didn't hesitate. He squeezed the trigger of his paralo-ray gun and Tom stiffened into rigidity.

The planter dropped the ray gun into a chair and leisurely began to tie the hands and feet of the immobilized cadet.

"Since you can hear me, Corbett," said Sinclair, "and since you are powerless to do anything about what I'm about to tell you, I'm going to give you a full explanation. I owe it to you. You've really worked for it."

Unable to move a muscle, Tom nevertheless could hear the planter clearly. He mentally chided himself at his stupidity in allowing himself to be captured so easily.

Sinclair continued, "My original invitation to you and your friends, to use my home as a base for your hunting operations was sincere. I had no idea you were in any way connected with the investigation the Solar Guard was planning to make into the Nationalist movement."

Tom was completely bound now, and the planter stepped back, picked up the ray gun, and flipping on the neutralizer, released the cadet from the effects of the ray charge. Tom shuddered involuntarily, his nerves and muscles quivering as life suddenly flowed into them again. He twisted at the bonds on his wrists, and to his amazement found them slightly loose. He was sure he could work his hands free, but decided to wait for a better opportunity. He glanced at the clock on the wall near by and saw that it was nine in the evening. Only fifteen hours before the Solar Guard must attack!

Sinclair sat down casually in a chair and faced the cadet. George and Mrs. Hill had stopped struggling and were watching their employer.

"Do you know anything about the bomb we found on the *Polaris* on our trip to Venus?" asked Tom.

"I planned that little surprise myself, Corbett," said Sinclair. "Unfortunately our agents on Earth bungled it."

"It seems to me that was pretty stupid. There would have been another man sent in Major Connel's place, and we were warned that something big was in the wind."

"Ah, quite so, Corbett," said Sinclair. "But the destruction of the *Polaris* would have caused no end of speculation. There would have been an investigation which would have temporarily removed the spotlight from the Nationalist movement. That would have given us ample time to complete our preparations for the attack."

"Then you knew," said Tom bitterly, "when Major Connel, Roger, Astro, and I left here that we were going to be captured."

"Well, that was one of the details of the final plan. Personally, I hoped that you and your nosy major would meet a more dramatic and permanent end in the jungle."

"What are you going to do with us?" asked Tom, glancing at George and his wife. "And what do Mr. and Mrs. Hill have to do with your scheme?"

"Unfortunately they discovered who I am, and of course had to be taken care of. As to your eventual disposition, I haven't had time to think about that."

"Well, you'd better start thinking," said Tom. "And you'd better do a good job when you attack the Solar Guard. Perhaps you don't know it, Sinclair, but the whole pattern of the Solar Guard is one of defense. We do not invite attack, but are prepared for it. And we have the power to counterattack!"

"When we get through with your Solar Guard, Corbett," sneered Sinclair, "there won't be anything left but smoldering heaps of junk and the dead bodies of stupid men!"

The buzz of a teleceiver suddenly sounded in another part of the house and Sinclair left the room quickly. When he was sure the planter was out of earshot, Tom turned to George and whispered, "I think I can work my hands loose. Where can I find a ray gun?" George began to mumble frantically but Tom couldn't understand him, and the sound of returning footsteps silenced Hill. The planter strode back into the room, hurriedly putting on the green uniform of the Nationalists. "I've just received word of a speed-up in the preparations for our attack," he said. "Soon, Corbett—soon you will see what will happen to the Solar Guard!"

CHAPTER 16

"Bring that dirty little space crawler in here!"

Captain Strong had never seen Commander Walters so angry. The cords stood out in his neck and his face was red with fury as he paced up and down the Solar Guard office in Venusport. "A spy," he roared. "A spy right in the heart of our organization!" He shook his head.

The door opened and two burly Solar Guardsmen entered, saluted, and turned to flank the doorway, hands on their paralo-ray pistols. The private secretary of E. Philips James shuffled in slowly, followed by two more guards. Walters stepped up to the thin, intense young man and glared at him. "If I had my way, I'd send you out to the deepest part of space and leave you there!"

The man bit his lip but said nothing.

"Where is your secret base?" demanded Walters.

"I don't know," replied the secretary nervously.

"Who told you to intercept this message from Mercury?" Walters tapped a paper on his desk. "Who gave you your orders?"

"I receive orders on an audioceiver in my home," answered the man, a slight quaver in his voice. "I have never seen my superior."

"And you followed the Nationalist movement blindly, doing whatever they told you, without question, is that it?"

"Yes."

"Yes, *sir*!" roared Walters.

"Yes, sir," corrected the secretary.

"Who told you to forge those orders for priority seats on the *Venus Lark*?"

"My superior," said the man.

"How did you know Major Connel was coming here to investigate the Nationalists?"

"I read the decoded message sent to the Solar Delegate, Mr. James."

"Who told you to send men to bomb the *Polaris*?"

"My superior," said the man.

"Your superior—your superior!" Walters' voice was edged with contempt. "What else has your superior told you to do?"

"A great many things," said the young man simply.

Walters studied the thin face and then turned to Captain Strong. "There's only one thing to do, Steve. There's no telling how many of these rats are inside our organization. Relieve every civilian in any position of trust and put in our own man. I'll make a public teleceiver broadcast in half an hour. I'm

declaring martial law."

"Yes, sir," replied Strong grimly.

"If you hadn't been in the code room when this message from Mercury came in, we would never have known the Nationalists were trying to get the Mercurians to join them in their attack on us until it was too late. It's the only break we've had, so far, learning that the Mercurians are still decent, loyal Solar citizens. I hate to think of what would have happened if they hadn't warned us."

"He very nearly got away with it, sir," said Strong. "If I hadn't heard the signal for a top-secret message come through on the coding machine, I never would have suspected him. He tried to hide it in his tunic. He also confessed to trying to kidnap the cadets when he heard me tell them that a cab would be waiting for them."

"Well, we know now," said Walters. He turned to one of the guardsmen. "Sergeant, I'm holding you personally responsible for this man."

"Aye, aye, sir," said the guard, stepping toward the secretary, but Walters stopped him and addressed the man.

"I'll give you one last chance to tell me where your base is and how many ships you have," he said.

The secretary looked down at his feet and mumbled, "I don't know where the base is, and I don't know how many ships there are."

"Then what does this list we found in your tunic mean?" snapped Strong. "These are the names of ships that have been lost in space."

"I don't know. That list was sent to me over the audioceiver by my superior. I was to relay it to Mercury should they accept our proposal to join forces against—" He stopped.

"Get him out of my sight!" barked Walters.

The guards closed in around the little man and he slowly shuffled out of the office.

"I wonder how many more there are like him in our organization, Steve?" The commander had turned to the window and was staring out blindly.

"I don't know, sir," replied Strong. "But I think we'd better be prepared for trouble."

"Agreed," said Walters, turning to the Solar Guard captain. "What do you suggest?"

"Since we don't know how many ships they have, where their base is, or when they plan to attack, I suggest putting the Venus squadrons in defense pattern A. Meanwhile, call in three additional squadrons from Mars, Earth, and Luna. That way, we can at least be assured of an even fight."

"But we don't know if they'll attack here on Venus. Suppose we weaken Earth's fleet and they attack there?" Walters paused, looking troubled. Then he sighed. "I guess you're right. Put the plan into effect immediately. It's the only thing we can do."

At exactly midnight every teleceiver on Venus was suddenly blacked out

for a moment and then came into focus again to reveal the grim features of Commander Walters.

In homes, restaurants, theaters, arriving and departing space liners, in every public and private gathering place, the citizens of Venus heard the announcement.

"As commander in chief of the Solar Guard, I hereby place the entire planet of Venus under martial law. All public laws are suspended until further notice. All public officials are hereby relieved of their authority. A ten P.M. until six A.M. curfew will go into effect immediately. Anyone caught on the streets between these hours will be arrested. An attack is expected on the city of Venusport, as well as other Venusian cities, momentarily. Follow established routine for such an occurrence. Obey officers and enlisted men of the Solar Guard who are here on Venus to protect you and your property. That is all!"

* * * * *

In the living room of Sinclair's house Tom waited impatiently for the sound of Sinclair's yacht taking off before attempting to free himself from the rope on his wrists. But when a half-hour had passed with no sound from outside, he decided not to waste any more time.

Relaxing completely, the curly-haired cadet began working his wrists back and forth in the loop of rope. It was slow, painful work, and in no time the skin was rubbed raw. George and Mrs. Hill watched him, wide-eyed. They saw the skin of his wrists gradually turn pink, then red, as the cadet pulled and pushed at the rope. A half-hour had passed before he felt the rope slipping down over the widest part of his hand. Slowly, so as not to lose the precious advantage, he pulled with all his strength, unmindful of the pain. He heard a sharp gasp from Mrs. Hill and then felt the rope become damp. His wrists were bleeding. But at the same time he felt the rope slipping over his hands. He gave a quick tug and the rope slipped off and dropped to the floor, a bloody tangle. He spun around and untied the foreman and his wife quickly, removing the gags from their mouths gently.

"Your wrists!" cried Mrs. Hill.

"Don't worry about them, ma'am," said Tom. He looked at Hill. "How long have you been tied up?"

"Just about an hour before you came," answered the foreman. "I found Sinclair in front of a teleceiver in his room. It's in a secret panel and I didn't know it was there. I waited and heard him talking to someone in Venusian. But he spotted me and pulled a ray gun."

"Do you know where he's gone?" asked Tom.

"No, but I sure wish I did!" said the burly foreman stoutly. "I have

something to settle with him."

"That'll have to wait until the Solar Guard is finished with him. Come on!" Tom started toward the door.

"Where are we going?" asked Hill.

"To the *Polaris*! I've got to warn the Solar Guard of their plans. They're going to attack the Venusport garrison and take over Venus!"

"By the stars!" gasped Mrs. Hill. "Here I've been feeding that man all these years and didn't know I was contributing to a revolution!"

Tom was out of the door and running toward the *Polaris* before she had finished talking. George followed right behind him.

As the cadet raced across the dark clearing one hope filled his mind—that the *Polaris* would be in the same condition in which they had left it.

The port was still open where Sinclair had caught him and he climbed inside the giant ship quickly. As soon as he entered, he snapped on the emergency lights and searched the ship carefully. After examining every compartment, and satisfied that there was no one aboard, he made his way back to the radar bridge. There, he saw immediately why Sinclair had felt free to leave the ship. All radar and communications equipment had been completely smashed.

The young cadet returned to the control deck and called down to George Hill, waiting in the air lock. "George! Get Mrs. Hill aboard quickly. We're blasting off!"

"Blasting off?" the foreman called back. "But I thought you were going to contact Venusport!"

"I can't," replied Tom. "Sinclair has smashed the communications and the radar. We'll have to take our information to Venusport in person. I only hope he's left the rockets and atomic motors alone."

"How about using the teleceiver in the house?" asked the foreman, climbing up to the control deck.

"Can't take a chance," said Tom. "This is top secret. They might have the teleceiver tapped."

"Do you know how to handle this ship alone?" asked George, glancing around at the great control board. "I don't know anything about a ship this size."

"I can handle it," said Tom. "Get Mrs. Hill aboard!"

"Here I am, Tommy," said Mrs. Hill, climbing up into the control deck. "I have some bandages and salve for your wrists."

"There's no time, Mrs. Hill," said Tom. "We've got to—"

"Nonsense!" she interrupted firmly. "You just give me your hands. It'll take only a minute!"

Tom reluctantly held out his wrists and Mrs. Hill expertly applied the salve and bandaged the cadet's raw wrists. Admittedly feeling better, Tom turned to the master switch and found it missing. For a second panic seized him, until he remembered that Major Connel had hidden it. He felt under the pilot's chair

and breathed easier, pulling out the vital instrument.

"Better get into acceleration chairs," said Tom, strapping himself into his seat. "This might be a rough take-off."

"Watch yourself, Tom," cautioned George. "We aren't afraid for ourselves, but you've got to get to Venusport!"

"If he's left the power deck alone, everything will be O.K."

The young cadet stretched out a trembling hand and switched on the automatic firing control. Then, crossing his fingers, he flipped on the main generator and breathed easier as the steady hum surged through the ship. He thought briefly of Astro and Roger, wishing his two unit mates were at their stations, and then switched on the power feed to the energizing pumps. There was a second's wait as the pressure began to build, and he watched the indicator over his head on the control panel carefully. When it had reached the proper level, he switched in the reactant feed, giving it full D-12 rate. He glanced at the astral chronometer over his head automatically and noted the time.

"Stand by!" he called. "Blast off minus five—four—three—two—one—*zero*!"

He threw the master switch and a roaring burst of power poured into the main tubes. The ship bucked slightly, raised itself from the ground slowly, and then suddenly shot upward. In less than a minute the *Polaris* had cleared atmosphere and Tom turned on the artificial-gravity generators. He made a quick computation on the planetary calculator, fired the port steering rockets, and sent the ship in a long arching course for Venusport. Then, unstrapping himself, he turned to see how Mr. and Mrs. Hill had taken the blast-off.

The foreman and his wife were shaking their heads, still in acceleration shock, and Tom helped them out of their cushions.

"Oh, my! Do you boys have to go through this all the time?" Mrs. Hill asked. "It's a wonder to me how a human body can take it."

"I feel pretty much the same way," muttered George.

"A cup of hot tea will fix you up fine," Tom reassured them, and leaving the ship on automatic control, he went into the small galley off the control deck and brewed three cups of tea. In a few moments the elderly couple felt better, and Tom told them of the Nationalists' base and Connel's plan to wreck the radar station at noon the next day. Both Mr. and Mrs. Hill were shocked at the scope of the Nationalists' plan.

"Well, they bit off more than they could chew when they decided to buck the Solar Guard," asserted Tom. "When Commander Walters gets finished with them, Sinclair and the rest won't have anything left but memories!"

"Tell me something, Tom," said George, looking at the control panel thoughtfully. "Have you figured out how you're going to land this ship alone and with no radar?"

"I'll have to use the seat of my pants." Tom smiled, and turned back to his seat. George and his wife looked at each other and quickly strapped

themselves into their acceleration cushions.

A few moments later Tom began braking the ship with the nose rockets. It made a slow-climbing arc over the spaceport and then settled slowly, tailfirst. The stern teleceiver was out of order, and the young cadet had to rely entirely on "feel," to get the *Polaris* in safely. He had calculated his rate of fall, the gravity of Venus, and the power of the rockets, and was dropping at a predetermined rate. At the critical point he increased power on the drive rockets, continuing to fall slowly until he felt the jarring bump of the directional fins touching the ground.

"Touchdown!" he roared triumphantly.

He closed the master switch and turned to look at the smiling faces of Mr. and Mrs. Hill.

"That was fine, Tom," said George, "but I don't want to do it again."

"Don't be a scaredy cat, George Hill!" taunted Mrs. Hill. "Tom handles this ship as if he were born on it."

Tom grinned. "We'd better hurry up. There must be something going on. There aren't any lights on here at the spaceport and all the administration buildings are dark."

He hurried to the air lock and swung it open, jumping lightly to the ground.

"Halt!" growled a rough voice. "Get your hands in the air and stay right where you are!"

Puzzled, Tom did as he was told, announcing, "I'm Space Cadet Tom Corbett, *Polaris* unit. I request immediate transportation to Commander Walters. I have important information for him."

He was momentarily blinded by the glare of a ring of lights around him, and when he finally could see, he found himself in the middle of a squad of Solar Guardsmen in battle dress.

"What's the password?" asked a tough sergeant whose shock rifle was aimed right at Tom's midsection.

"Juggernaut!" replied Tom quietly.

The word sent the sergeant into a frenzy of action. "Peters, Smith, get the jet car around here!"

"What's up, Sergeant?" asked Tom. "Why is everything so dark?"

"Martial law!" replied the guardsman. "Curfew from ten until six."

"Whew!" gasped Tom. "It looks as if I just made it!"

As George and Mrs. Hill climbed out of the air lock, a jet car raced up and skidded to a stop in front of them. A moment later Tom and the couple, accompanied by two of the guardsmen, were speeding through the dark and empty streets of Venusport. The car was stopped once at a mid-town check point, and Tom had to repeat the password. They picked up another jet car, full of guardsmen as escorts, and with the echo of the exhausts roaring in the empty avenues, they sped to central Solar Guard headquarters.

Tom had never seen so many enlisted guardsmen in one spot before except on a parade ground. And he noted with a tinge of excitement that each man

was in battle dress. Arriving at headquarters, they were whisked to the top floor of the building and ushered into Commander Walters' office. The commander smiled broadly as the young cadet stepped to the front of his desk and saluted smartly.

"Cadet Corbett reporting, sir," he said.

In a moment the office was filled with men; E. Philips James, the Solar Delegate, Captain Strong, fleet commanders, and officers of the line.

"Make your report, Cadet Corbett," said Walters.

Tom spoke quickly and precisely, giving full details on the location of the base, the approximate number of fighting ships, the armament of each, the location of supply dumps, and finally of Major Connel's plan to sabotage the radar at noon the following day. Then, one by one, each official asked him questions pertinent to their tasks. Fleet commanders asked about the ships' speed, size, armor; Strong inquired about the stores and supporting lines of supply; Walters asked for the names of all people connected with the movement. All of these questions Tom answered as well as he could.

"Well, gentlemen," said Walters, "thanks to Corbett and the others on this mission, we have all the information we need to counter the Nationalists. I propose to follow Major Connel's plan and attack the base at noon tomorrow. Squadrons A and B will approach from the south and east at exactly noon. Squadrons C, D, and E will come in from the north and west as a second wave at 1202. The rest of the fleet will go in from above at 1205. Supporting squadrons are now on their way from Earth and Mars. Blast off at six hundred hours. Spaceman's luck!"

"Good work, Tom," said Strong, when the conference broke up.

"Yes, sir," said Tom. "But I can't help worrying about Roger and Astro and Major Connel. What's going to happen to them, sir?"

Strong hesitated. "I don't know, Tom. I really don't know."

CHAPTER 17

"What time is it, Astro?"

"Exactly eleven o'clock, sir."

"All set?"

"Yes, sir."

"You know what to do. Move out!"

Astro and Major Connel were crouched behind a pile of fuel drums piled near the communications and radar building in the heart of the Nationalists' base. Above them, the gigantic tree used as the radar tower rose straight into the Venusian morning sky.

After helping Tom to escape, Astro had returned to the prison building for Connel and was surprised to find the place surrounded by green-clad Nationalist guards. Rather than attempt to release Connel then, Astro hid and waited for the time set to wreck the radar communications of the enemy. During the second day, he had successfully eluded the many patrols looking for him. Once from a hiding place he overheard one of the men mention Connel. He took a daring chance and approached the patrol openly. Speaking the Venusian dialect, he learned that Connel had escaped. That news sent the cadet on a different game of hide-and-seek as he prowled around the base searching for the Solar Guard officer. He had found him hiding near the radar tower, and they spent the night close to the communications building waiting for the time to strike.

Their plan was simple. Astro would enter the building from the front, while Connel would enter from the rear. Astro would draw attention to himself, and while the guards inside the building were busy dealing with him, Connel would come upon them from behind, knock them out of action, and then destroy the radar equipment.

The two spacemen gave no thought to their own safety. They were concerned only with accomplishing their objective. Having no way of knowing whether Tom had made it back to Venusport or whether their destruction of the communications center would be of any value, they nevertheless had to proceed on the assumption that Tom had gotten through.

Astro crawled behind the drums and stopped twenty feet from the door to wait for several Nationalist officers to leave. They finally got into a jet car and roared away. Astro nodded to the major waiting to edge around to the rear and then headed for the main entrance.

Connel saw Astro making his way to the front door and hurried around to

complete his part of the mission. He waited exactly three minutes, gripped his shock rifle firmly, and then crossed over to the rear of the building and stepped inside.

Once inside, the major found it difficult to keep from bursting into laughter. The large ground-floor room was a frenzy of brawling, yelling, shouting Nationalist guards trying to capture the giant cadet. Astro was standing in the middle of the floor, swinging his great hamlike fists methodically, mowing down the guards like tenpins. Two of them were on his back, trying to choke him, while others crowded in from all sides. But they could not bring the cadet down. Astro saw Connel, shook himself, and stood free.

"Stand back!" roared Connel. "The first one of you green monkeys that makes a move will have his teeth knocked out! Now line up over there against the wall—and I mean fast!"

The sudden attack from the rear startled the Nationalist guards, and they milled around in confusion. There was no confusion, however, when Connel fired a blast over their heads. Astro grabbed a paralo-ray gun and opened up on the guards. A second later the squad of Nationalists were frozen in their tracks.

Once the men were no further danger to them, Connel and Astro locked the front and rear doors and then raced up the stairs that led to the main radar and communications rooms on the second floor.

"You start at that end of the hall, I'll start here!" shouted Connel. "Smash everything you see!"

"Aye, aye, sir." Astro waved his hand and charged down the hall. He exploded into a room, firing rapidly, and an electronics engineer froze in a startled pose in front of his worktable. The big cadet gleefully swung a heavy chair across the table of delicate electronic instruments, and smashed shelves of vital parts, pausing only long enough to see if he had left anything unbroken. He rushed out into the hall again. At the other end he heard Connel in action in another room. Astro grinned. It sounded as if the major was having a good time. "Well," thought the big cadet, "I'm not having such a bad time myself!"

The next room he invaded contained the radar-control panel, and the big cadet howled with glee as he smashed the butt of his paralo-ray gun into the delicate vacuum tubes, and ripped wires and circuits loose.

Suddenly he stopped, conscious of someone behind him. He spun around, finger starting to squeeze the trigger of his gun, and then caught himself just in time. Major Connel was leaning against the doorjamb, a wide grin on his face.

"How're you doing?" he drawled.

"Not bad," said Astro casually. "Be a lot of work here, fixing these things, eh?" He grinned.

"What time is it?" asked Connel.

Astro looked at his watch. "Twenty to twelve."

"We'd better clear out of here and head for the jungle."

Astro hesitated. "You know, sir, I've been thinking."

"If you have an idea, spill it," said the major.

"How about releasing the prisoners, taking over a ship, and blasting off?"

"And have the Solar Guard fleet blast us out of the skies? No, sir! Come on, we've got to get moving!"

"We could still try to release Carson and the others," said Astro stoutly.

"We can try all right, but I don't think we'll be very successful."

The two spacemen returned to the first floor of the building and headed for the rear door without so much as a look at the line of frozen guards along the wall. Once outside, they skirted the edge of the building, staying close to the hedge, and then struck out boldly across the canyon floor toward the prison building. They were surprised to see that their smashing attack had gone unnoticed, and Connel reasoned that the constant roar of activity in the canyon had covered the sounds of their raid.

"We'll have to hurry, sir," said Astro as they turned into the lane leading to the prison. "Ten minutes to twelve."

"It's no good, Astro," said Connel, suddenly pulling the cadet back and pointing to the building. "Look at all the guards—at least a dozen of them."

Astro waited a second before saying grimly, "We could try, sir."

"Don't be a pigheaded idiot!" roared Connel. "Nothing will happen to those men now, and in five minutes there'll be so much confusion around here that we'll be able to walk over and open the door without firing a shot!"

Suddenly there was an explosive roar behind them and they spun around. On the opposite side of the canyon three rocket ships were hurtling spaceward.

"They must have spotted our fleet coming in," said Connel, a puzzled frown on his face.

"But how could they?" asked Astro. "We knocked out their radar!"

Connel slammed his fist into the palm of his hand. "By the stars, Astro, we forgot about their monitoring spaceship above the tower! When we knocked out the main station here in the canyon, it took over and warned the base of the attack!"

From all sides the canyon reverberated with the roaring blasts of the Nationalist fleet blasting off. Around them, the green-clad rebels were running to their defense posts. Officers shouted frantic orders and workers dropped tools to pick up guns. The building that held Carson and the other planters was suddenly left alone as the guards hurried to ships and battle stations.

Connel counted the number of ships blasting off and smiled. "They don't stand a chance! They're sending up only two heavy cruisers, four destroyers, and about twenty scouts. The Solar Guard fleet will blast them into space dust."

Astro jumped up and started to run.

"Hey, Astro! Where are you going?" shouted Connel.

"To find Roger!" Astro shouted in reply. "I'll meet you back here!"

"Right!" shouted Connel, settling back into concealment. There was no need to release the planters in the guardhouse now. Connel was satisfied that in a few moments the rebellion against the Solar Alliance would be defeated. He smiled in prospect of seeing a good fight.

* * * * *

"Bandit at three o'clock—range twenty miles!" Aboard the command ship of the first group of attacking Solar Guard squadrons, Captain Strong stood in the middle of the control deck and watched the outline of an approaching Nationalist cruiser on the radar scanner. The voice of the range finder droned over the ship's intercom.

"Change course three degrees starboard, one degree down on ecliptic plane," ordered Strong calmly.

"Aye, aye, sir," replied Tom at the controls.

"Main battery, stand by to fire." Strong watched the enemy ship closely.

"Aye, aye!" came the answer over the intercom.

"Approaching target!" called the range finder. "Closing to fifty thousand yards—forty thousand—"

"*Pleiades* and *Regulus*," Strong called the other two ships of his squadron. "Cut in on port and starboard flanks. Squadron B, stand by!"

Abrupt acknowledgment came over the audioceiver as the cruisers deployed for the attack.

"Twenty-three thousand yards, holding course." The range-finder's voice was a steady monotone.

"Stand by to fire!" snapped Strong.

"Two bandits at nine o'clock on level plane of ecliptic!" came the warning from the radar bridge.

Before Strong could issue an order countering the enemy move, the voice of the commander of the *Pleiades* came in over the audioceiver, "Our meat, Strong, you take care of the big baby!"

On the scanner screen Strong saw the trails of two space torpedoes erupt from the side of the *Pleiades*, followed immediately by two more from its flanking ship, the *Regulus*. The four missiles hurtled toward the two enemy destroyers, and a second later two brilliant flashes of light appeared on the scanner. Direct hits on the two destroyers!

"Range—ten thousand feet," came the calm voice over the intercom, reminding Strong of the enemy cruiser.

"Arm war heads!" snapped Strong over the intercom, and, on the gun deck, men twirled the delicate fuses on the noses of the space torpedoes and stepped

back.

"On target!" called the range finder.

"Full salvo—fire!" called Strong, and turned to Tom quickly. "Ninety-degree turn—five degrees up!"

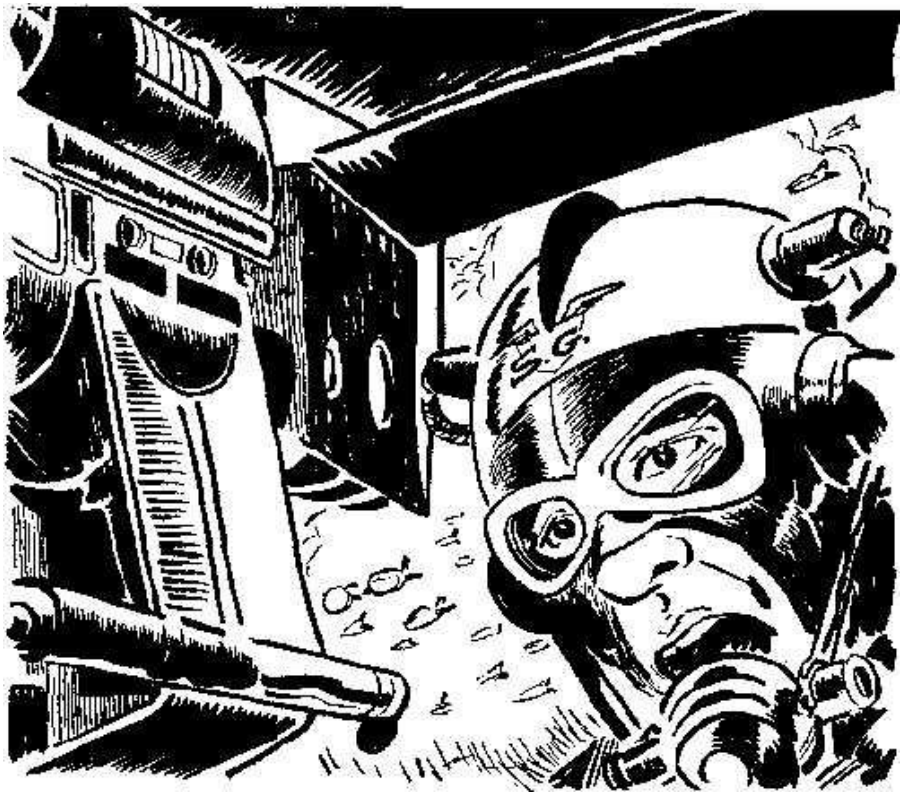
The Solar Guard cruiser quivered under the recoil of the salvo and then bucked under the sudden change of course to elude the torpedoes fired by the enemy a split second later.

As the Solar Guard cruiser roared up in a long arc, eluding the enemy torpedoes, the Nationalist ship maneuvered frantically to evade the salvo of war heads, but Strong had fired a deadly pattern. In a few seconds the enemy ship was reduced to space junk.

Concentrating on the control panel, Tom had been too busy maneuvering the giant ship to see the entire engagement, but he heard the loud exulting cries of the gun crew over the intercom. He looked up at Strong, and the Solar Guard captain winked. "One down!"

"Here come squadrons C, D, and E, sir," said Tom, indicating the radar. "Right on time." He glanced at the astral chronometer over his head. "Two minutes after twelve."

"It doesn't look as if we'll need them, Tom," said Strong. "The Nationalists got only two cruisers and four destroyers off the ground. We've already knocked out one of their cruisers and two destroyers, and Squadron B is taking on the second cruiser and its destroyer escorts now!" He turned to the radar scanner and saw the white evenly spaced blips that represented Squadron B enveloping the three enemy ships. The bulky converted cruiser was maneuvering frantically to get away. But there was no escape. In a perfectly co-ordinated action the Solar Guard ships fired their space torpedoes simultaneously. The three Nationalist ships exploded in a deadly flash of fire.



"Don't tell me that's all they've got!" exclaimed Strong. "Why, we still have the rest of the fleet coming in at 1205!"

Suddenly Tom froze in his seat. Before him on the radar scanner he saw a new cluster of white blips, seemingly coming from nowhere. They were enemy ships, hurtling spaceward to meet the Solar Guard fleet. "Captain Strong! Look! More of them. From secret ramps in the jungle!"

"By the craters of Luna!" roared the Solar Guard captain. "Attention! Attention! All ships—all ships!" he called into the fleet intercom. "This is Strong aboard command ship. Bandit formation closing fast. Regroup! Take tight defensive pattern!"

As the Solar Guard squadrons deployed to meet this new attack, Tom felt a chill run down his spine. The mass of ships blasting to meet them outnumbered them by almost three to one. And there were more ships blasting off from the secret ramps in the jungle! He had led the Solar Guard into a trap!

CHAPTER 18

"Fire at will! Fire at will!"

Aboard the command ship, Captain Strong roared the order to the rest of the fleet, and the individual ship commanders of the Solar Guard vessels broke formation and rocketed into the mass of Nationalist ships, firing salvo after salvo of space torpedoes. But it was a losing battle. Time and again, Strong and Tom saw Solar Guard ships hemmed in by three and four Nationalists' vessels, then blasted into oblivion.

Strong had ordered Tom to maneuver the command ship at will, seeking targets, yet still keeping from being a target, and the young cadet had guided the powerful ship through a series of maneuvers that had even surprised the experienced Solar Guard officer.

"Where's the rest of the fleet?" roared Strong. "Why aren't they here yet?"

"I don't know, sir," replied Tom, "but if they don't show up soon, there won't be much left to save!"

"Bandits dead ahead," droned the voice from the radar bridge calmly, "trying to envelop us."

Tom's hand shot out for the intercom to relay orders to the power deck and glanced quickly at the scanner. He almost cheered. "Steve—I mean, Captain Strong. The rest of the fleet! It's coming in! Attacking from top-side!"

"By the craters of Luna, you're right!" yelled the young Solar Guard captain, as he saw the white blips on the scanner screen. "O.K., it's time to stop running and fight!"

The Solar Guard reinforcements swooped down on the fighting ships with dazzling speed, and the sky over the jungle belt of Venus base was so thick with zooming, firing, maneuvering ships that observers on the ground couldn't tell one ship from another. For an hour the battle raged. During the seesawing back and forth it seemed as if all ships must be blasted into space junk. Finally the superior maneuvering and over-all spacemanship of the Solar Guard vessels began to count heavily, and the Nationalist ships began to plunge into the jungle or drift helplessly out into space. Reforming, the Solar Guard ships encircled the enemy in a deadly englobement pattern, and wheeling in great co-ordinated arcs through space, sent combined volleys of torpedoes crashing into the enemy ships. The space battle was over, a complete Solar Guard victory.

Strong called to the remaining ships of his fleet, "Take formation K. Land and attack the enemy base according to prearranged order. The enemy fleet is

destroyed, but we still have a big job to do."

"What happens now, sir?" asked Tom, relaxing for the first time since the space battle had begun.

"We try to destroy their base and put an end to this rebellion as quickly as possible," replied Strong coldly.

One by one, the ships of the Solar Guard fleet landed around the rim of the canyon base. Troop carriers, that had stood off while the space battle raged, disgorged hundreds of tough Solar Guard Marines, each carrying shock rifles, paralo-ray pistols, and small narco grenades that would put an enemy to sleep in five seconds. A half-hour later, after the last Nationalist ship had been blasted out of the skies, the rim of the canyon was alive with Solar Guardsmen waiting to go into action. Many had comrades in the Solar Guard ships lost in the space fight and they were eager to avenge their friends.

"How many ships did we lose, sir?" asked Tom, after the squadron commanders had made their reports to Captain Strong.

"Forty," said Strong grimly. "But the entire Nationalist fleet was wiped out. Thank the universe that their radar was knocked out, or we would have been completely wiped out."

"Thank Astro and Major Connel for that, sir," said Tom with the first smile on his face in days. "I knew none of those green jokers could stop those two!"

"I've got to report to Commander Walters and the Solar Alliance, Tom. You take a squad of men and move out. Your job is to find Astro, Roger, and Major Connel."

"Thank you, sir!" said Tom happily.

* * * * *

Down in the canyon, Major Connel had waited as long as he dared for Astro to return with news of Roger. From his position, the tough spaceman could not tell how the gigantic space battle had ended until he saw the Solar Guard troop carriers land on the rim of the canyon above. Satisfied, he decided that it was time to move.

The Solar Guard troops landed on the rim of the canyon

He stood up, careful not to expose himself, since fighting had broken out among the workers. Every street, shop, and corner would bring dangers, and having stayed alive this far, Connel wanted to reach the Solar Guard forces and continue the fight alongside his friends. Astro was nowhere in sight when the major moved cautiously down a side alley, and he was beginning to think that Astro had not escaped from the base with Roger, when he saw the big cadet suddenly appear around a corner running as hard as he could. A few seconds later three green-clad Nationalist guards rounded the corner and

pounded after him.

Astro saw Connel and ducked behind an overturned jet car, yelling, "I'm unarmed! Nail them, Major!"

In a flash Connel dropped to the pavement, and firing from a kneeling position, cut the Nationalists down expertly. When the last of the enemy was frozen, Connel rushed to Astro's side.

"What about Roger?" he asked.

"I couldn't reach him," replied Astro. "The sick bay's in the main administration building and that's so well guarded it would take a full company to break in."

Connel nodded grimly. "Well, the best thing for us to do is get more men and then tackle it."

"Yes, sir," said Astro. "I think we'd better head for the canyon walls on the west. The Marines are pouring down that side."

"Let's go," grunted the major, and led the way down the narrow lane. But when they reached the open area beyond the repair shops they saw that the Nationalist guards had thrown up barriers in the streets and were preparing defenses against frontal assault.

"Maybe we'd better stay where we are, sir," the big cadet said, after scanning the Nationalist defenses. "We'd never be able to get through now."

"Ummmh," mused Connel. "You're right. Maybe we can be of more use striking behind the lines."

Astro grinned. "That's just what I was thinking, sir." He pointed to a near-by barrier set up in the middle of the street. "We could pick off the men behind that—"

"Look out!" roared Connel. Behind them, five Nationalist guards had suddenly appeared. But they were more surprised than Astro and Connel, and the big cadet took advantage of it by charging right into them.

It was a short but vicious fight. There was no time to aim or fire a paralo-ray gun. It was a matter of bare knuckles and feet and knees and shoulders. One by one, the green-clad men were laid low, and finally, Connel, out of breath, turned to grin at Astro.

"Feel better," he gasped, "than I've felt in weeks!"

Astro grinned. One of Connel's front teeth was missing. Astro leaned against the wall and pointed to the canyon wall where the columns of Solar Guard Marines were making their way down into the base under heavy covering fire from above. "Won't be long now!"

"Come on," said Connel. "They'll probably send scouts out ahead of those columns and we can make contact with them over there." He pointed toward a high tangle of barbed wire set up in the middle of the near-by street. Astro nodded, and exchanging his broken ray gun for one belonging to a fallen Nationalist, raced to the edge of the barrier with the major. They crouched and waited for the first contact by the Marines.

"They shouldn't be too long now," said Connel.

"No more than a minute, sir," said Astro, pointing to a running figure darting from one protective position to another.

"You, there!" shouted a familiar voice. "Behind that barrier!"

Astro glanced at Connel. "Major, that sounds like—!"

"Come out with your hands in the air and nothing will happen to you!" the voice called again.

"By the stars, you're right!" yelled Connel. "It's Corbett!"

Astro jumped up and yelled, "Tom! Tom! You big space-brained jerk! It's me, Astro!"

Behind the corner of a house, Tom peered cautiously around the edge and saw the big cadet scramble over the tangle of barbed wire with Connel right behind him. Tom held up his hand for the squad in back of him to hold their fire and stepped out to meet his friends. "Major! Astro!"

The three spacemen pounded each other on the back while the patrol of Marines watched, grinning. "Where's Roger?" asked Tom finally.

Astro quickly told him of the heavily guarded administration building.

"Is he all right?" asked Tom.

"No one knows," replied Connel. "We haven't been able to get any news of him at all."

"I'm going after him," said Tom, his jaw set. "No telling what they'll try to do with him when they see their goose is cooked."

"I'll go with you," said Astro.

"No, you stay here with Major Connel," said Tom. "I think it would be better if just one tried it, with the rest creating a diversion on the other side."

"Good idea," said Connel. He turned to the rest of the patrol. "Men, there's an injured Space Cadet in the sick bay of the main building. He's the third member of the *Polaris* unit and has contributed as much to victory in this battle as any of us. We've got to get him out of the hands of the Nationalists before something happens to him. Are you willing to try?"

The Marines agreed without hesitation.

"All right," said Connel, "here's what we'll do." Quickly the major outlined a plan whereby Tom would sneak through the lines of the Nationalists around the administration building, while the rest of them created a diversionary move. It was a daring plan that would require split-second timing. When they were all agreed as to what they would do and the time of the operation was set, they moved off toward the administration building. The rebellion was over, defeated. Yet the Nationalist leaders were still alive. They were desperate men and Roger was in their hands. His life meant more to Tom Corbett and Astro than the smashing victory of the Solar Guard, and they were prepared to give their own lives to save his.

CHAPTER 19

"Ready?" asked Connel.

"All set, sir," replied Tom.

"Remember, we'll open up in exactly five minutes and we'll continue to attack for another seven minutes. That's all the time you have to get inside, find Roger, and get out again."

"I understand, sir," replied Tom.

"Move out," said Connel, "and spaceman's luck!"

With a last quick glance at Astro who gave him a reassuring nod, Tom dropped to his knees and crawled out from behind their hidden position. Dropping flat on his stomach, he inched forward toward the administration building. All around him ray guns and blasters were firing with regularity as the columns of Marines advanced from all sides of the canyon toward the center, mopping up everything in front of them. The roof of the administration building seemed a solid sheet of fire as the Nationalist leaders fought back desperately.

He reached the side of the building that was windowless, and scrambled toward the back door without interference. There he saw five green-clad men, crouched behind sandbags, protecting the rear entrance. Glancing at his watch he saw the sweeping hand tick off the last few seconds of his allotted time. At the exact instant it hit the five-minute mark, there was a sudden burst of activity at the front of the building. Connel and the Marine patrol had opened fire in a mock attack. The men guarding the rear left their barricade and raced into the building to meet the new assault.

Without a second's hesitation, Tom jumped toward the door. He reached up, found it unlocked, and then with his ray gun ready, kicked the door open. He rushed in and dived to the floor, ray gun in his hand, ready to freeze anything or anyone in sight.

The hall was empty. In the front, the firing continued and the halls of the building echoed loudly with the frantic commands of the defenders. Gliding along the near wall, Tom moved slowly forward. Before him, a door was ajar and he eased toward it. On tiptoe the curly-haired cadet inched around the edge of the door and glanced inside. He saw a Nationalist guard on his hands and knees loading empty shock rifles. Tom quickly stepped inside and jammed his gun in the man's back. "Freeze!" he said between his teeth.

The trooper tensed, then relaxed, and slowly raised his hands.

"Where's the sick bay?" demanded Tom.

"On the second floor, at the end of the hall."

"Is that where you're keeping Cadet Manning?" demanded Tom.

"Yes," replied the man. "He's—"

Tom fired before the trooper could finish. It was rough, but he knew he had to act swiftly if he was to help Roger. The trooper was frozen in his kneeling position, and Tom scooped up a loaded shock rifle before slipping back into the hall. It was still empty. The firing outside seemed to be increasing.

He located the stairs, and after a quick but careful check, started up, heart pounding, guns ready. On the second floor he glanced up and down the hall, and jumped back into the stair well quickly. Firing from an open window, three troopers were between him and the only door at the end of the hall. Not sure if Roger was in that room or not, Tom had to make sure by looking. And the only way he could do that was to eliminate the men in his way. He dropped to one knee and took careful aim with the ray pistol. It would be tricky at such long range, but should the paralo-ray fail, the cadet was prepared to use the shock rifle. He fired, and for a breathless second waited for the effects of the ray on the troopers. Then he saw the men go rigid and he smiled. Three hundred feet with a ray pistol was very fancy shooting!

He raced for the door. As he entered the room, he saw a figure stretched out on the floor. He stopped still, cold fear clutching at his heart.

"Roger!" he called. The blond-haired cadet didn't move. Tom jumped to his unit mate's side and dropped to one knee beside him. It was dark in the room and he couldn't see very well, but there was no need for light when he felt Roger's pulse.

"Frozen, by the stars!" he exclaimed. He stepped back, flipped the neutralizer switch on his ray gun, and fired a short burst. Almost immediately Roger groaned, blinked his eyes, and sat up.

"Roger! Are you all right?" asked Tom.

"Yeah—sure. I'm O.K.," mumbled his unit mate. "Those dirty space rats. They didn't know what to do with me when the Marines landed, so they froze me. They were scared to kill me. Afraid of reprisals."

"They sure used their heads that time," said Tom with a grin. "How's your back?"

"Fine. I just wrenched it a little. It's better now. But never mind me. What's going on? Where's Astro and Major Connel? And how did you get here?"

Tom gave him a quick run-down on everything that had happened, concluding with, "Major Connel and Astro, with a patrol of Solar Guard Marines, are outside now drawing the Nationalist fire. Time's running out on us fast. Think you can walk?"

"Spaceboy," replied Roger, "to get out of this place I'd crawl on my hands and knees!"

"Then come on!" Tom gave the shock rifle to his unit mate and stepped back into the hall. It was quiet. Tom waved at Roger to follow and slipped down the hall toward the stairs. Outside, the Marine patrol continued firing,

never letting up for a second. The two boys reached the stairs and had started down when Tom grabbed Roger by the arm. "There's someone moving around down there!"

They hugged the wall and held their breath. Tom glanced at his watch. Only forty-five seconds to go before the Marines would stop firing and retire. They had to get out of the building!

"We'll have to take a chance, Roger," murmured Tom. "We'll try to rush them and fight our way out."

"Don't bother!" said a harsh voice behind them. The two cadets spun around and looked back toward the second floor. Standing at the top of the stairs, Rex Sinclair scowled down at them, ray guns in each hand, leveled at the two cadets.

"By the craters of Luna!" cried Roger. "You!"

"That's one of the things I forgot to tell you, Roger," said Tom wryly. "Sinclair belongs to this outfit too!"

"Belongs!" roared Roger. "Look at that white uniform he's wearing! This yellow rat is Lactu, the head of the whole Nationalist movement!"

Tom gaped at the white-clad figure at the head of the stairs. "The leader!" he gasped.

"Quite right, Corbett," replied Sinclair quietly. "And if it hadn't been for three nosy cadets, I would have been the leader of the whole planet. But it's finished now. All that is left for me is escape. And you two are going to help me do just that!"

Roger suddenly dropped to one knee and leveled the blaster. But the Nationalist leader was too quick. His paralo-ray crackled and Roger was frozen solid.

"Why, you—!" roared Tom.

"Drop your gun, Corbett," warned Sinclair, "and take that blaster away from him."

"I'll get you, Sinclair," said Tom through clenched teeth, "and when I do—"

"Stop the talk and get busy!" snapped Sinclair.

Tom took the blaster out of Roger's paralyzed hands and dropped it on the floor. Still holding one ray gun on Tom, Sinclair flipped on the neutralizer of the other gun and released Roger again.

"Now get moving down those stairs!" ordered Sinclair. "One more funny move out of either of you and I'll do more than just freeze you."

"What are you going to do with us?" asked Roger.

"As I said, you are going to help me escape. This time the Solar Guard has won. But there are other planets, other people who need strong leadership and who like to put on uniforms and play soldier. People will always find reason to rebel against authority, and I will be there to channel their frustrations into my own plans. Perhaps it will be Mars. Or Ganymede. Or even Titan. Another name, another plan, and once again the Solar Guard will have to fight me. Only next time, I assure you, it is I who will win!"

"There won't be any next time," growled Roger. "You're washed up now. This base is swarming with Marines. How do you think you're going to get out of here?"

"You shall see, my friend. You shall see!"

Sinclair motioned them toward a door on the ground floor. "Open it!" demanded Sinclair. Tom opened it and stepped inside. It was a cleaner's closet, crammed with old-fashioned mops and pails and dirty rags. Sinclair pushed Roger inside and was about to follow when several green-clad guards came running down the hall toward them.

"Lactu! Lactu!" they shouted frantically. "They're pouring into the base! The Solar Guard—they've got us surrounded!"

"Keep fighting!" snapped Sinclair. "Don't surrender! Inflict as much damage as possible!"

"Where—where are you going?" asked one of the men, looking at the closet speculatively.

"Never mind me!" barked Sinclair. "Do as I tell you. Fight back!"

"It looks like we're losing a leader," observed another of the men slowly. "You wouldn't be running out on us, would you, Lactu?"

Sinclair fired three quick blasts from the ray guns, freezing the men solid, and then turned back to Tom and Roger. "Stay in that closet and do as I tell you."

Inside the closet, Sinclair kicked a pail out of the way and barked, "Remove the loose plank in the floor and drop it on the floor."

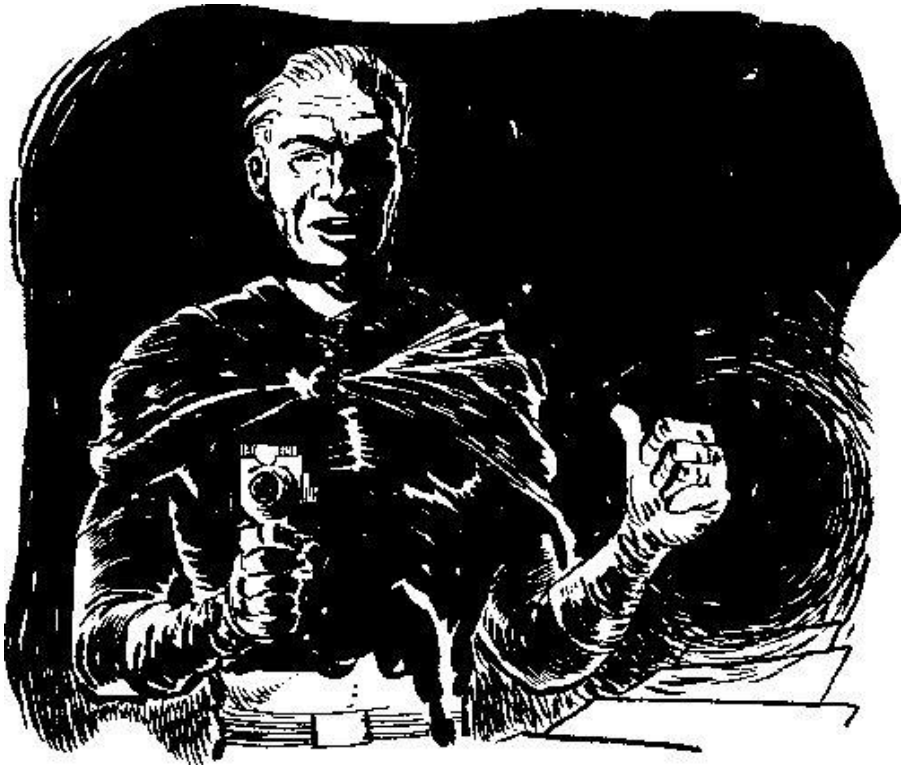
Tom felt around until he found the loose board and lifted it up.

"What's down there?" asked Roger.

"You'll see," said Sinclair. "Now step back, both of you!"

Tom and Roger backed up and watched while Sinclair bent over the hole in the floor. He felt around inside with one hand and appeared to turn something. Suddenly the wall opposite the two cadets slid back to reveal a narrow flight of stairs leading down. Sinclair motioned with his gun again. "Get going, both of you."

Tom stepped forward, followed by Roger, and they started down the stairs. At the bottom they found themselves in a narrow tunnel about four hundred feet underground. The floor of the tunnel slanted downward sharply.



"At the end of this tunnel," announced Sinclair, "is a clearing and in that clearing is a spaceship. It is nearly three miles from the canyon. By the time the Solar Guard learns of my absence, we shall be lost in space."

"We?" asked Tom. "You're taking us with you?"

"But of course," said Sinclair. "How else would I assure myself that the Solar Guard will not harm me unless I take two of their most honored Space Cadets with me?"

* * * * *

"It's been fifteen minutes," announced Connel, "and they haven't come out yet. There's only one thing to do. Take that building and find out what's happened."

The major was crouched behind a wrecked jet car, staring at the administration building.

"I can get that Marine captain over to our left to co-ordinate an attack with

us, sir," suggested Astro.

"It's risky," said Connel. "They still have a lot of men in there. But if we wait for another column to reach us, it might be too late. All right, Astro, tell him we're attacking in ten minutes and ask him to give us all the help he can."

"Yes, sir," replied Astro, and flopped to the ground to worm his way toward the head of the Marine column on the left.

It took the cadet nearly five minutes to cover the hundred yards between the two Solar Guard positions. Several times the firing became so heavy that the cadet was forced to remain still on the ground while rifle and ray-gun fire crackled over his head. He made it finally, several Marines coming out to help him over the top of the barrier. Gasping for breath, the big cadet asked to see the commanding officer.

A grimy, tired-looking officer turned and walked over to the cadet.

"Astro!"

"Captain Strong!"

"Where's Tom and Roger and Major Connel?" demanded Strong.

Astro told the captain of Tom's attempt to save Roger and that nothing had been heard from him since. "Major Connel wants us to attack together," Astro continued. "He's jumping off in four minutes!"

"Right!" snapped Strong. He turned to a young Solar Guard officer waiting respectfully near by. "You take them in, Ferris. Full frontal attack. Don't use blasters unless you have to. Take as many prisoners as possible."

"Very well, sir," replied the lieutenant.

"I'll go back to the other position with Cadet Astro. Start your attack as soon as you see Major Connel and his men go in."

"Got it, sir," said the lieutenant.

Strong and Astro made their way back to Connel's position quickly, and after a brief but hearty handclasp, the two officers began plotting the last assault against the Nationalists' stronghold. While other Marine columns were wiping up small groups of rebels fighting from disabled spaceships, repair shops, and other buildings, Strong's column had been driving straight for the heart of the base. The administration building was the last barrier between them and complete victory over the rebels.

Strong and Connel spoke briefly of Tom and Roger, neither wanting to voice his inner fears in front of Astro. The Nationalists previously had shown little regard for human life. Now, with their backs to the wall, Connel and Strong knew that if Tom and Roger were captured, they might be used as hostages to ensure safe passage for some of the rebels.

"Let's go," said Connel finally. "Tom and Roger will be expecting us." He forced himself to grin at Astro, but the giant cadet turned and faced the building grimly. Connel lifted his hand, took a last look up and down the line of waiting Marines, then brought his hand down quickly. "Over the top. Spaceman's luck!" he shouted.

The Marines vaulted over the top of their defense position and charged

madly toward the building, all guns blazing. The Nationalists returned the fire, and for the first few seconds it seemed that the world had suddenly gone mad. Strong found himself shouting, running, and firing in a red haze. Astro was roaring at the top of his lungs, and Connel just charged ahead blindly. Marines began to drop on all sides, cut down by the withering fire. Then, when it appeared that they would have to fall back, the main column, led by the Solar Guard lieutenant, broke through the last barricade and swarmed into the building.

Five minutes later the battle was over. The last remnants of the Nationalists had been defeated and the green-clad troopers were herded into the streets like cattle. Strong and Connel, followed by Astro, charged through the building like wild bulls searching for Tom and Roger.

"No sign of them," said Strong finally. "They must have slipped out somehow."

"No!" roared Connel. "They've been taken out of here as hostages. I'll bet my life on that. There must be a secret way out of here!"

"Come on," said Strong. "Let's find it." Suddenly he stopped. "Look! Those three troopers outside that door! They're frozen! Let's have a look there first!"

They rushed over to the closet where the three Nationalists had been frozen by Sinclair.

Strong stopped and gasped. "By the craters of Luna, it's Sharkey!"

"Sharkey? Who's that?" asked Astro.

"Supposed to be the leader of the Nationalists," said Connel.

Strong quickly released Sharkey from the paralo-ray effects and the man shuddered so violently from the reaction that Astro had to grab him to keep him from falling down.

"Where are Corbett and Manning?" demanded Connel.

"Lactu… he took them both in there… through a secret passageway." Sharkey pointed to the closet with a trembling finger.

Strong jumped for the closet door and jerked it open. He saw the open wall and the stairs leading down. "Come on! This way!"

Connel ran wildly into the closet, followed by Astro. Suddenly the big cadet stopped, turned, and fired point-blank at the figurehead of the Nationalist rebellion. Sharkey once again grew rigid.

The two Solar Guard officers raced down the stairs into the tunnel and ran headlong through the darkness. Time was precious now. The lives of Tom and Roger might be lost by a wasted second.

CHAPTER 20

"What's that noise, Tom?"

The two cadets were walking through the tunnel when they heard the strange booming roar. Behind them, Sinclair overheard Roger's whispered question and laughed. "That is the sound of the slaves being fed their lunch. They do not know yet that there has been a battle and soon they'll be free!"

"Slaves!" gasped Roger. "What kind of slaves?"

"You shall see. Keep going!" Sinclair prodded the cadets with his ray gun. The tunnel had grown larger and the downward slant of the floor lessened as they pressed forward. The noise ahead of them grew louder and stronger and now they could distinguish occasional words above the din.

"We must pass through the big vault where the slaves are working," said Sinclair. "I would advise you to keep your mouths shut and do as I say!"

Neither Tom nor Roger answered, keeping their eyes straight ahead.

The tunnel suddenly cut sharply to the right and they could see a blaze of light in front of them. The two boys stopped involuntarily, and then were nudged forward by Sinclair's guns. Before them was a huge cavern nearly a thousand yards high and three thousand yards across, illuminated by hundreds of torches. Along one side of the cave a line of men were waiting to have battered tin plates filled from a huge pot at the head of the line. The men were in rags, and every one of them was hardly more than skin and bones. At strategic places around the cavern, Nationalist guards kept their guns trained and ready to fire. They brought up their guns quickly as Tom and Roger entered, and then lowered them again as Sinclair appeared. Every eye turned to the Nationalist leader as he marched across the floor of the cave, Tom and Roger walking before him.

"You see," said Sinclair, "these wretched fools thought my organization was a utopia until they learned that I was no better for them than the Solar Guard. Unfortunately they learned too late and were sent here to dig underground pits for my spaceships and storage dumps."

The small column of three marched across the floor of the cave toward another small tunnel on the opposite side. The slaves were absolutely still, and the guards smiled a greeting at their leader when he passed them.

Sinclair ignored them all. "Beyond that tunnel," he continued, pointing to the small opening ahead of them, "there is a spaceship. We will board that ship and blast off. The three of us. Where we will go, I haven't decided yet. Perhaps a long trip into deep space until the Solar Guard has forgotten about

you and me and the Nationalists. Then we will return, as I said before, to Mars, or perhaps Ganymede, and I will start all over again."

"You're mad!" said Tom through clenched teeth. "Crazy as a space bug!"

"We shall see, Corbett. We shall see!"

Suddenly Roger broke away and raced toward the mass of slaves. He shouted wildly, "Get the guards! The Nationalists are beaten! The base in the canyon has been destroyed! Hurry! Rebel!"

The emaciated men milled around the cadet, all asking questions at once.

Sinclair signaled to the guards. "Shoot him down!" Four guards took careful aim.

"Roger! Look out!" warned Tom.

Roger whirled around in time to see the guards about to fire. He dived for a mound of dirt and hid behind it. The energy shock waves licked at the sand where he had stood a second before. Roger got up and ran for better cover, the guards continuing to fire at him. Then, around the cadet, the slave workers began to come alive. Some hurled stones at the guards, others began climbing up the sides to the ledges where the guards stood. Taking in the situation at a glance, Sinclair shoved the ray gun in Tom's back and snarled, "Get going!"

The young cadet had no alternative. He turned and marched hurriedly across the floor toward the small tunnel ahead of him. Several slave workers tried to attack Sinclair, but in their weakened condition, they were no match for the alert Nationalist leader who froze them instantly with his paralo-ray gun.

Roger saw Tom heading for the tunnel and made a sudden dash for Sinclair. But the rebel leader heard the pounding of footsteps and turned to fire at Roger as the cadet sailed through the air in a flying tackle. The jolting ray hit him squarely and he landed on the ground with a thud a few feet from Sinclair, completely immobilized again.

Tom tried to seize the momentary advantage, but once again Sinclair was quicker and forced Tom back into the small opening of the tunnel.

Around them, the slave workers were being whipped into a frenzy after months of stored-up hatred for their guards. Hundreds of them were climbing up toward the guards' posts, unmindful of the deadly fire pouring down on them.

"Get in there quick!" demanded Sinclair. He shoved Tom through the small opening, and after a quick glance over his shoulder at the surging slaves, followed the cadet.

Sinclair flashed a light ahead of them and Tom saw the reflection of a bright surface. In the distance he recognized the outlines of a spaceship.

"Keep moving!" ordered Sinclair. "You're my protection in getting out of here, and if I have to freeze you and carry you aboard, that's just what I'll do! Now get moving!"

Tom walked to the air lock of the ship, Sinclair right in back of him. The rebel leader pressed an outside button in the ship's stabilizer fin and the port

swung open slowly. "Get in!" growled Sinclair.

Tom stepped into the ship and waited. Sinclair climbed in in back of him and closed the air lock.

"Through that hatch," said Sinclair, motioning toward the iron ladder, "and keep your hands in the air."

"How do you think you're going to get through the Solar Guard fleet that's standing off above the canyon?" asked Tom casually. "As soon as they see this ship blast off, you'll have a hundred atomic war heads blasting after you!"

"Not as long as I have you!" sneered Sinclair. "You're my protection!"

"You're wrong," said Tom. "They'll open fire, anyway."

"That's the chance I've got to take," said Sinclair. "Now climb up to the control deck and get on the audioceiver. You're going to tell them you're aboard!"

Tom walked ahead of the rebel leader toward the control deck, his mind racing. He knew that Sinclair was going through with his plan and he also knew that the Solar Guard would not pay any attention to anything he had to say. If, after three warnings, Sinclair didn't brake jets and bring his ship to a stop, he would be blasted out of space. He had to do something.

"Where's the communicator?" asked Tom.

"Over by the radar scanner." Sinclair eyed him suspiciously. "Remember, Corbett, your life depends on this as much as mine. If you don't convince them you're worth saving by letting me get away, you're a dead pigeon!"

"You don't have to tell me," said Tom. "I know when I'm licked."

Sinclair took his position in the pilot's chair, facing the control panel. For a brief moment his back was to Tom as he bent over to turn on the generators. Tom took a deep breath and lurched across the deck. But Sinclair turned and saw him coming, and jerked up the ray gun. He wasn't able to get clear in time. Tom's fingers circled the barrel of the gun as Sinclair fired. The barrel grew hot as Sinclair fired repeatedly. Tom's fingers were beginning to blister under the intense heat, but he held on. With his other hand he reached up for the rebel's throat. Sinclair grabbed his wrist and, locked together, they rolled around on the deck.

Sinclair continued to fire the ray gun and Tom's fingers were burning with pain from the heat. Suddenly the cadet let go the gun, spun around, and jerked Sinclair off balance. He swung his free hand as hard as he could into the rebel's stomach. Sinclair doubled over and staggered back, dropping the gun. Tom was on top of him like a shot, pounding straight, jolting rights and lefts to the man's head and stomach. But Sinclair was tough. He twisted around, and quick as a cat, jumped to his feet. Then, stepping in, he rapped a solid right to Tom's jaw. The cadet reeled back, nearly falling to the deck. Sinclair was in on top of him in a flash, pounding his head and body with vicious smashing blows.

Sinclair wasn't able to get clear in time

Tom fell to the floor under the savagery of the rebel leader's attack. Sinclair lifted his foot to kick the cadet as Tom's fingers tightened around the barrel of the discarded ray gun. He brought it up sharply against the planter's shin and he staggered back in pain. Tom took careful aim. He fired the gun. Nothing happened. The gun was empty.

Sinclair rushed the cadet again, but Tom stepped aside and swung the heavy gun with all his might. The metal smashed against Sinclair's head and

he sank to the deck, out cold.

The last rebel of Venus had been defeated.

* * * * *

"We found Roger trying to keep the slaves away from the guards," said Strong. "They were ready to tear them apart!"

"Can't say that I blame them," snorted Connel. "Some of those poor devils had been working in the caves for three years!"

Tom, Roger, and Astro sat sprawled in chairs in one of the offices of the Nationalist headquarters listening to Strong and Major Connel sum up the day's battle. The entire army of Nationalist guards, Division Chiefs, and workers had been rounded up and put aboard the troop carriers to be taken to a prison asteroid. Each individual rebel would be dealt with under special court proceedings to be established by Solar Alliance decree later.

"There are still some things I don't understand," said Astro. "How did they know you were going to investigate them in the first place?"

"After our meeting with Commander Walters," said Connel, "we sent a special coded message to the Solar Alliance Delegate here on Venus. His secretary intercepted the message, used stolen priorities for himself and two assistants to get to Earth and back on an express space liner without being missed."

"The secretary!" shouted Tom. "That's the same fellow I saw in Atom City when we were bumped out of our seats on the *Venus Lark*!"

Roger looked up at Tom with a scowl. "A fine time to remember!"

Strong grinned. "We discovered him, Tom, when that attempt was made to kidnap you by the cab driver. We also picked up the owner of the pawnshop."

"The most amazing thing about this space joker, Sinclair," commented Connel, "was the way he had everyone fooled. I couldn't figure out how he was able to get around so quickly until I learned about those buildings."

"What buildings?" asked Tom, suddenly remembering how the rebel leader had disappeared so quickly and quietly when he was being held captive with Mr. and Mrs. Hill in the Sinclair home.

"Every one of the important members of the organization, the Division Chiefs, they called themselves, had a small shack on his property near the edge of the jungle. It was nothing more than a covering for a shaft that led to a tunnel, which, in turn, led to other tunnels under the jungle and eventually connected with one leading right into the base."

"You mean," said Astro, "they have underground tunnels all through the jungle?"

"That's right," asserted Connel. "If they had been prepared for our attack,

they could have beaten the pants off us. Not only in space, but on the ground. They could have run circles around us in those tunnels. I got suspicious when I found a hut at the Sharkey place with no windows in it."

"Say, remember the time Sinclair barked at me for going near that shack on his place when we first arrived?" said Roger.

Connel grinned. "I'll bet you a plugged credit that if you had opened that door you'd have been frozen stiffer than a snowman on Pluto."

"Well, anyhow," said Tom happily, "we got what we came after."

"What was that?" asked Strong.

"A tyrannosaurus!" replied the curly-haired cadet.

"And that's another thing," said Connel. "That tyrannosaurus we killed was a pet of the Nationalists. I don't mean a household pet, but it fitted into their plans nicely. The tyranno's lair was near the top of that canyon. Any time a stray hunter came along, the tyrannosaurus would scare him away. So when you three came along and said you were deliberately hunting for a tyrannosaurus, they got worried."

"Worried?" asked Roger. "Why?"

"They thought you were actually hunting or investigating them, and when I started nosing around, they were sure. That's why Sinclair ordered his boys to burn down his plantation—to try to throw us off the track. So you see," Connel concluded, "your summer leave really started the ball rolling against them."

"Summer leave!" shouted Roger. "What day is it?"

"The twenty-ninth of August," replied Strong.

"Oh, no!" moaned the blond-haired cadet. "We start back to class in three days!"

"Three days!" roared Astro. "But—but it'll take three days to write up our reports of everything that's happened! We won't have any time for fun!"

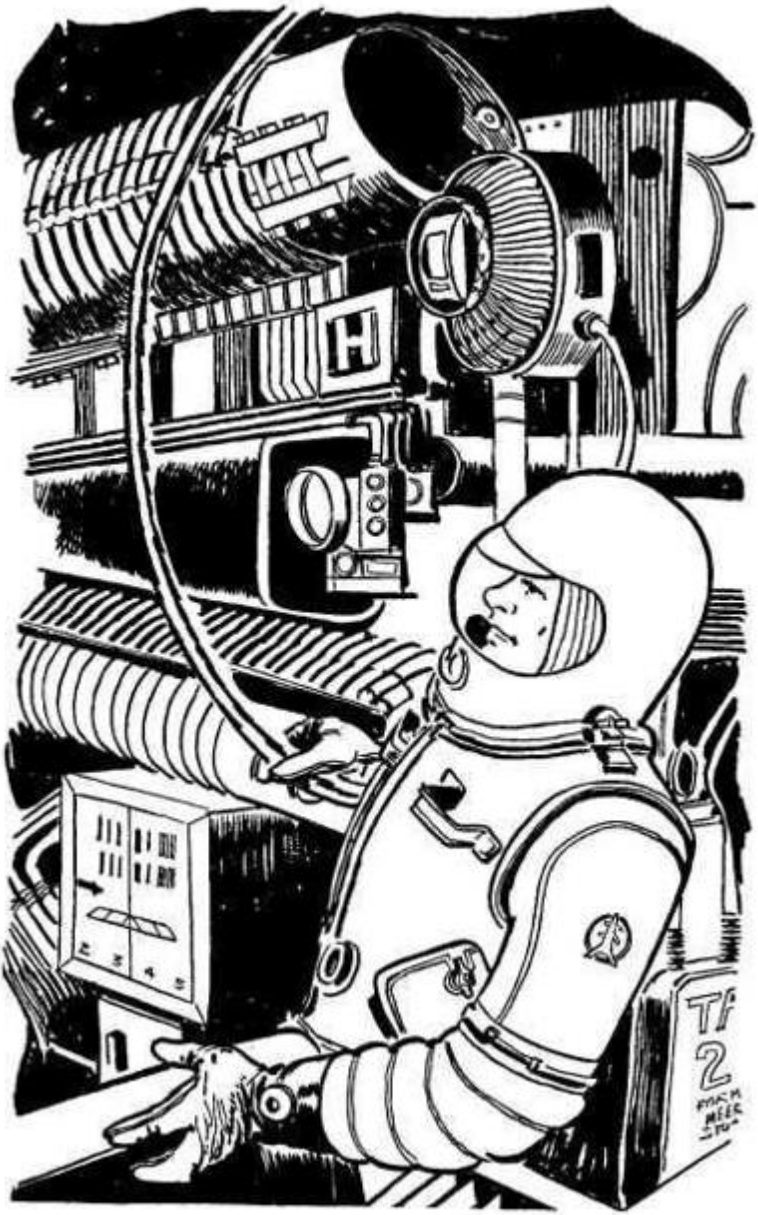
"Fun!" snorted Connel. "Fun is for little boys. You three space-brained, rocket-headed idiots are spacemen!"

THE END

TOM CORBETT
SPACE CADET
TREACHERY IN OUTER SPACE
By CAREY ROCKWELL
WILLY LEY Technical Adviser

Treachery in Outer Space

First Published 1954



A TOM CORBETT Space Cadet Adventure

TREACHERY IN OUTER SPACE

By CAREY ROCKWELL

WILLY LEY *Technical Adviser*

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CHAPTER 1

"All right, you blasted Earthworms! *Stand to!*"

Three frightened cadet candidates for Space Academy stiffened their backs and stood at rigid attention as Astro faced them, a furious scowl on his rugged features. Behind him, Tom Corbett and Roger Manning lounged on the dormitory bunks, watching their unit mate blast the freshman cadets and trying to keep from laughing. It wasn't long ago that they had gone through the terrifying experience of being hazed by stern upperclassmen and they knew how the three pink-cheeked boys in front of them felt.

"So," bawled Astro, "you want to blast off, do you?"

Neither of the three boys answered.

"Speak when you're spoken to, Mister!" snapped Roger at the boy in the middle.

"Answer the question!" barked Tom, finding it difficult to maintain his role of stern disciplinarian.

"Y-y-yes, sir," finally came a mumbled reply.

"What's your name? And don't say 'sir' to me!" roared Astro.

"Coglin, sir," gulped the boy.

"Don't say 'SIR'!"

"Yes, sir—er—I mean, O.K.," stuttered Coglin.

"And don't say O.K., either," Roger chimed in.

"Yes… all right… fine." The boy's face was flushed with desperation.

Astro stepped forward, his chin jutting out. "For your information," he bawled, "the correct manner of address is 'Very well.'"

"Very well," stammered Coglin.

Astro shook his head and turned back to Tom and Roger. "Have you ever seen a greater display of audacity and sheer gall?" he demanded. "The nerve of these three infants assuming that they could ever become Space Cadets!"

Tom and Roger laughed, not at the three Earthworms, but at Astro's sudden eloquence. The giant Venusian cadet usually limited his comments to a gruff Yes or No, or at most, a garbled sentence full of a veteran spaceman's oaths. Then, resuming his stern expression, Roger faced the three boys.

"Sound off! Quick!" he demanded.

"Coglin, John."

"Spears, Albert."

"Duke, Phineas."

"You call those *names*?" Roger snorted incredulously. "Which of you ground crawlers is radar officer?"

"I am, very well," replied Spears.

The blond-haired cadet stared at him in amazement.

"Very well, what?" he demanded.

"You said that's the correct form of address," replied Spears doggedly.

Roger turned to Tom. "Well, thump my rockets," he exclaimed, "I didn't know they made them that dumb any more!"

"Who is the command cadet?" asked Tom, suppressing a grin.

"I am, very well," replied Duke.

"How fast is fast?"

"Fast is as fast must be, without being either supersonic or turgid. Fast is necessarily that amount of speed that will not be the most nor the least, yet will be sufficient unto the demands of fast…" Duke quoted directly from the *Earthworm Manual*, a book that was not prescribed learning in the Academy, but woe unto the Earthworm who did not know it by heart when questioned by a cadet upperclassman.

"What is a blip on a radar, Mister?" demanded Roger of Spears.

"A blip is never a slip. It is constant with the eye of the beholder, and constant with the constant that is always—" Spears faltered, his face flushing with embarrassment.

"Always what?" hounded Roger.

"I—I don't know," stammered the fledgling helplessly.

"*You don't know?*" yelled Roger. He looked at Tom and Astro, shaking his head. "He doesn't know." The two cadets frowned at the quivering boy and Roger faced him again. "For your information, Mr. Spears," he said at his sarcastic best, "there are five words remaining in that sentence. And for each word, you will spend one hour cleaning this room. Is that clear?"

Spears could only nod his head.

"And for your further information," continued Roger, "the remaining words are 'constantly alert to constant dangers'! Does that help you, Mister?"

"Yes, Cadet Manning," gulped Spears. "You are very kind to give me this information. And it will be a great honor to clean your room."

Astro stepped forward to take his turn. He towered over the remaining cadet candidate and glowered at the thoroughly frightened boy. "So," he roared, "I guess this means you're going to handle the power deck in one of our space buckets, eh?"

"Yes, very well," came the quavering, high-pitched reply.

"Give me the correction of thrust when you are underway in a forward motion and you receive orders from the control deck for immediate reversal."

Coglin closed his eyes, took a deep breath, and the words poured from his lips. "To go forward is to overtake space, and to go sternward is to retake space already overtaken. To correct thrust, I would figure in the beginning of my flight how much space I intended to take and how much I would retake, and since overtake and retake are both additional quotients that have not been divided, I will add them together and arrive at a correction." The cadet candidate stopped abruptly, gasping for breath.

Secretly disappointed at the accuracy of the reply, Astro grunted and turned to Tom and Roger. "Any questions before they blast off on their solo hop?" he growled.

The two cadets shook their heads and Roger quickly lined three chairs in a row. Tom addressed the frightened boys solemnly. "This is your spaceship. The first chair is the command deck; second, radar deck; third, power deck. Take your stations and stand by to blast off."

Spears, Coglin, and Duke jumped into the chairs and Tom walked around them eying them coldly. "Now, Misters," he said, "you are to blast off, make a complete circle of the Earth, and return to the Academy spaceport for a touchdown. Is that clearly understood?"

"All clear," chorused the boys.

"Stand by to raise ship!" bawled Tom.

"Power deck, check in!" snapped Duke from the first chair. "Radar deck, check in!"

"Just one moment, Mister," interrupted Roger. "When you issue an order over the intercom, I want to see you pick up that mike. I want to see all the motions. It's up to you, Misters, to make us believe that you are blasting off!"

"Very well," replied Duke with a nervous glance back at his unit mates.

"Carry on!" roared Tom.

Then, as Tom, Roger, and Astro sprawled on their bunks, grinning openly, the three Earthworm cadets began their simulated flight through space. Going through the movements of operating the complicated equipment of a spaceship, they pushed, pulled, jerked, snapped on imaginary switches, read unseen meters and gauges, and slammed around in their chairs to simulate acceleration reaction. The three cadets of the *Polaris* unit could no longer restrain themselves and broke into loud laughter at the antics of the aspirants. Finally, when they had landed their imaginary ship again, the Earthworms were pounded on the back heartily.

"Welcome to Space Academy!" said Tom with a grin. "That was as smooth a ride as I've ever had."

"Yeah," agreed Astro, pumping Coglin's hand. "You handled those reactors and atomic motors like a regular old space buster!"

"And that was real fine astrogation, Spears," Roger chimed in. "Why, you laid out such a smooth course, you never left the ground!"

The three Earthworms relaxed, and while Astro brewed hot cups of tea with synthetic pellets and water from the shower, Tom and Roger told them about the traditions and customs of the Academy.

Tom began by telling them how important it was for each crew member to be able to depend on his unit mate. "You see," he said, "in space there isn't much time for individual heroics. Too many things can happen too fast for it to be a one-man operation."

"I'll say," piped up Roger. "A couple of times I've been on the radar deck and seen a hunk of space junk coming down on us fast. So instead of

following book procedure, relaying the dope to Tom on the control deck to pass it on to Astro, I'd just sing out to Astro direct on the intercom, 'Give me an upshot on the ecliptic!' or 'Give me a starboard shot!' and Astro would come through because he knows I always know what I'm talking about."

"Not always, hot-shot!" growled Astro. "How about the time we went out to Tara and snatched that hot copper asteroid out of Alpha Centauri's mouth? *You* said the time on that reactor blast should be set at—"

"Is that so?" snapped Roger. "Listen, you big overgrown hunk of Venusian space gas—" Roger got no further. Astro grabbed him by the shirt front, held him at arm's length, and began tickling him in the ribs. The three freshmen cadets backed out of the way, glancing fearfully at the giant Venusian. Astro's strength was awesome when seen for the first time.

"Lemme go, you blasted space ape!" bellowed Roger, between fits of laughter.

"Say uncle, Manning!" roared Astro. "Promise you won't call me names again, or by the stars, I'll tickle you until you shake yourself apart!"

"All right—un-un-uncle!" managed Roger.

Astro dropped his unit mate on a bunk like a rag doll and turned back to Tom with a shrug of his shoulders. "He'll never learn, will he?"

Tom grinned at Duke. "Astro's like a big overgrown puppy."

"Someone ought to put him on a leash," growled Roger, crawling out of the bunk and rubbing his ribs. "Blast it, Astro, the next time you want to show off, go play with an elephant and leave me alone."

Astro ignored him, turning to Coglin. "As much as I gas Roger," the giant cadet said seriously, "I'd rather ride a thrust bucket with him on the radar deck than Commander Walters. He's the best."

Tom smiled. "That's what I mean, Duke. Astro believes in Roger, and Roger believes in Astro. I believe in them, and they in me. We've got to, or we wouldn't last long out there in space."

The three fledgling spacemen were silent, watching and listening with awe and envy as the *Polaris* crew continued their indoctrination. They considered themselves lucky to have been drawn by these famous cadets for their hazing. The names of Corbett, Manning, and Astro were becoming synonymous with great adventure in space. But, with all their hairbreadth escapes, the *Polaris* unit was still just learning its job. The boys were still working off demerits, arguing with instructors on theory, listening to endless study spools, learning the latest advanced methods of astrogation, communication, and reactor-unit operation. They were working toward the day when they would discard the vivid blue uniforms of the Space Cadet Corps and don the magnificent black and gold of the Solar Guard.

Tom was aware of the eager expressions on the faces of the Earthworms and he smiled to himself. It was not a smile of smugness or conceit, but rather of honest satisfaction. More than once he had shaken his head in wonder at being a Space Cadet. The odds against it were enormous. Each year thousands

of boys from all the major planets and the occupied satellites competed for entrance to the famed Academy and pitifully few were accepted. And he was happy at having two unit mates like Roger Manning and Astro to depend on when he was out in space, commanding one of the finest ships ever built, the powerful rocket cruiser *Polaris*.

As Roger and Astro continued to talk to the fledglings, Tom sipped his tea and thought of his own first days at the Academy. He remembered his fear and insecurity, and how hard he had fought to make what was then Unit 42-D a success, the unit that eventually became the *Polaris* unit. And how each assignment had brought him closer to his dream of becoming an officer in the Solar Guard.

He got up and walked to the window and looked out across the Academy campus, over the green lawns and white buildings connected by the rolling slidewalks, to the gleaming crystal Tower, the symbol of man's conquest of space. And beyond the Tower building, Tom saw a spaceship blasting off from the spaceport, her rockets bucking hard against thin air as she clawed her way spaceward. When it disappeared from sight, he followed it with his mind's eye and it became the *Polaris*, his ship! He and Roger and Astro were blasting through the cold black void, their own personal domain!

A loud burst of laughter behind him suddenly brought Tom back to Earth. He smiled to himself and shook his head, as though reluctant to leave his dream world. He glanced out of the window again, this time down at the quadrangle, and far below he recognized the squat, muscular figure of Warrant Officer Mike McKenny drilling another group of newly arrived cadet candidates. Tom saw the slidewalks begin to fill with boys and men in varicolored uniforms, all released from duty as the day drew to a close. Tonight, Astro, Roger, and he would go to see the latest stereo, and tomorrow they would blast off in the *Polaris* for the weekly checkout of her equipment. He turned back to Spears, Coglin, and Duke. Roger was just finishing the story of their latest adventure (described in *The Revolt on Venus*).

"The best part, of course, was the actual hunting of the tyrannosaurus," said Astro.

"A tyrannosaurus?" exploded Spears, the youngest and most impressionable of the three Earthworms. "You actually hunted for a dinosaur?"

Astro grinned. "That's right. They're extinct here on Earth, but on Venus we catch 'em and make pets out of the baby ones."

"We could have saved ourselves a lot of trouble, though," commented Roger mockingly. "We have several officers here that would have served just as well. Major 'Blast-off' Connel, for instance, the toughest, meanest old son of a hot rocket you have ever seen!"

"*Stand to!*"

The six boys nearly broke their backs jumping to attention. A squat, muscular figure, wearing the black-and-gold uniform of a Solar Guard, strode heavily into their line of vision. Roger gulped as Major Connel stopped in

front of him. "Still gassing, eh, Manning?" he roared.

"'Evening, Major, sir," mumbled Roger, his face beet red. "We—er—ah—were just telling this Earthworm unit about the Academy, sir. Some of its pitfalls."

"Some of the cadets are going to fall into a pit if they don't learn to keep their mouths shut!" snapped Connel. He glared at Tom, Astro, and Roger, then wheeled sharply to face the three quaking freshmen cadets. "You listen to anything they tell you and you'll wind up with a book full of demerits! What in blazes are you doing here, anyway? You're supposed to be at physical exams *right this minute!*"

The three boys began to shake visibly, not knowing whether to break ranks and run or wait until ordered.

"Get out of here!" Connel roared. "You've got thirty seconds to make it. And if you *don't* make it, you'll go down on my bad-rocket list!"

Almost in one motion, the three cadet candidates saluted and charged through the door. When they had gone, Connel turned to the *Polaris* cadets who were still at attention. "At ease!" he roared and then grinned.

The boys came to rest and smiled back at him tentatively. They never knew what to expect from Connel. "Well, did you put them through their paces?" he asked as he jerked his thumb toward the door.

"Yes, sir!" said Tom.

"Did they know their manual? Or give you any lip when you started giving them hot rockets?" Connel referred to the hazing that was allowed by the Academy, only as another of the multitude of tests given to cadets. Cadet candidates might possibly hide dangerous flaws from Academy officials but never from boys near their own ages.

"Major," said Astro, "those fellows came close to blasting off right here in these chairs. They really thought they were out in *space!*"

"Fine!" said Connel. "Glad to hear it. I've singled them out as my personal unit for instruction."

"Poor fellows," muttered Roger under his breath.

"What was that, Manning?" bellowed Connel.

"I said lucky fellows, sir," replied Roger innocently.

Connel glared at him. "I'll bet my last rocket that's what you said, Manning."

"Yes, sir."

Connel turned to the door and then spun around quickly to catch Roger grinning at Astro.

"'Poor fellows,' wasn't it?" said Connel with a grin. Roger reddened and his unit mates laughed. "Oh, yes," continued Connel, "I almost forgot. Report to Commander Walters on the double. You're getting special assignments. I recommended you for this job, so see that you behave yourselves. Especially you, Manning."

He turned and disappeared through the doorway, leaving the three cadets

staring at each other.

"Wowie!" yelled Astro. "And I thought we were going to get chewed up for keeping those Earthworms too long!"

"Same here," said Roger.

"Wonder what the assignment is?" said Tom, grabbing his tunic and racing for the door. Neither Roger nor Astro answered as they followed on his heels. When they reached the slidestairs, a moving belt of plastic that spiraled upward to an overhead slidewalk bridge connecting the dormitory to the Tower of Galileo, Tom's eyes were bright and shiny. "Whatever it is," he said, "if Major Connel suggested us for it, you can bet your last reactor it'll be a rocket buster."

As the boys stepped on the slidestairs that would take them to Commander Walters' office, each of them was very much aware that this was the first step to a new adventure in space. And though the three realized that they could expect danger, the special assignment meant that they were going to hit the high, wide, and deep again. And that was all they asked of life. To be in space, a spaceman's only real home!

CHAPTER 2

"Gentlemen, please!"

Commander Walters, the commandant of Space Academy, stood behind his desk and slammed his fist down sharply on its plastic top. "I must insist that you control your tempers and refrain from these repeated outbursts," he growled.

The angry voices that had filled the room began to subside, but Walters did not continue his address. He stood, arms folded across his chest, glaring at the assembled group of men until, one by one, they stopped talking and shifted nervously in their chairs. When the room was finally still, the commander glanced significantly at Captain Steve Strong, standing at the side of the desk, smiled grimly, and then resumed in a calm, conversational tone of voice.

"I am quite aware that we have departed from standard operational procedure in this case," he said slowly. "Heretofore, the Solar Guard has always granted interplanetary shipping contracts to private companies on the basis of sealed bids, the most reasonable bid winning the job. However, for the job of hauling Titan crystal to Earth, we have found that method unsatisfactory. Therefore, we have devised this new plan to select the right company. And let me repeat"—Walters leaned forward over his desk and spoke in a firm, decisive voice—"this decision was reached in a special executive session of the Council of the Solar Alliance last night."

A short, wiry man suddenly rose from his chair in the front row, his face clearly showing his displeasure. "All right, get on with it, Walters!" he snapped, deliberately omitting the courtesy of addressing the commander by his title. "Don't waste our time with that 'official' hogwash. It might work on your cadets and your tin soldiers, but not on us!"

There was a murmur of agreement from the assembled group of men. Present were some of the wealthiest and most powerful shipping magnates in the entire Solar Alliance—men who controlled vast fleets of commercial spaceships and whose actions and decisions carried a great deal of weight. Each hoped to win the Solar Guard contract to transport Titan crystal from the mines on the tiny satellite back to Earth. Combining steellike strength and durability with its great natural beauty, the crystal was replacing metal in all construction work and the demand was enormous. The shipping company that got the job would have a guaranteed income for years to come, and each of the men present was fighting with every weapon at his command to win the contract.

Heartened by the reaction of the men around him, the speaker pressed his advantage. "We've all hauled cargo for the Solar Guard before, and the sealed-bid system was perfectly satisfactory then!" he shouted. "Why isn't it satisfactory now? What's all this nonsense about a space race?"

Again, the murmur filled the room and the men glared accusingly at Walters. But the commander refused to knuckle down to any show of arrogance. He fixed a cold, stony eye on the short man. "Mr. Brett," he snapped in a biting voice, "you have been invited to this meeting as a guest, not by any right you think you have as the owner of a shipping company. A guest, I said, and I ask that you conduct yourself with that social obligation in mind!"

Before Brett could reply, Walters turned away from him and addressed the others calmly. "Despite Mr. Brett's outburst, his question is a good one. And the answer is quite simple. The bids submitted by your companies were not satisfactory in this case because we believe that they were made in bad faith!"

For once, there was silence in the room as the men stared at Walters in shocked disbelief. "There are fourteen shipping companies represented in this room, some of them the most respected in the Solar Alliance," he continued, his voice edged with knifelike sarcasm. "I cannot find it in my conscience to accuse all of you of complicity in this affair, but nevertheless we are faced with one of the most startling coincidences I have ever seen."

Walters paused and looked around the room, measuring the effect of his words. Satisfied, he went on grimly, "There isn't enough difference between the bids of each of you, not *five credits'* worth of difference, to award the contract to any single company!"

The men in the room gasped in amazement.

"The bids were exactly alike. The only differences we found were in operational procedure. But the cost to the Solar Guard amounted to, in the end, exactly the same thing from each of you! The inference is clear, I believe," he added mockingly. "Someone stole the minimum specifications and circulated them among you."

In the shocked quiet that followed Walters' statement, no one noticed Tom, Roger, and Astro slip into the room. They finally caught the eye of Captain Strong, who acknowledged their presence with a slight nod, as they found seats in the rear of the room.

"Commander," a voice spoke up from the middle of the group, "may I make a statement?"

"Certainly, Mr. Barnard," agreed Walters, and stepped back from his desk as a tall, slender man in his late thirties rose to address the men around him. The three Space Cadets stared at him with interest. They had heard of Kit Barnard. A former Solar Guard officer, he had resigned from the great military organization to go into private space-freight business. Though a newcomer, with only a small outfit, he was well liked and respected by every man in the room. And everyone present knew that when he spoke, he would have

something important to say, or at least advance a point that should be brought to light.

"I have no doubt," said Barnard in a slow, positive manner, "that the decision to substitute a space race between us as a means of awarding the contract was well considered by the Solar Council." He turned and shot Brett a flinty look. "And under the circumstances, I, for one, accept their decision." He sat down abruptly.

There were cries of: "Hear! Hear!" "Righto!" "Very good!"

"No!" shouted Brett, leaping to his feet. "By the craters of Luna, it isn't right! I demand to know exactly who submitted the lowest bid!"

Walters sighed and shuffled through several papers on his desk. "You are within your rights, Mr. Brett," he said, eying the man speculatively. "It was you."

"Then why in blue blazes didn't I get the contract?" screamed Brett.

"For several reasons," replied Walters. "Your contract offered us the lowest bid in terms of money, but specified very slow schedules. On the other hand, Universal Spaceways Limited planned faster schedules, but at a higher cost. Kit Barnard outbid both of you in money and schedules, but he has only two ships, and we were doubtful of his ability to complete the contract should one of his ships crack up. The other companies offered, more or less, the same conditions. So you can understand our decision now, Mr. Brett." Walters paused and glared at the man. "The Solar Council sat in a continuous forty-eight-hour session and considered *everyone*. The space race was finally decided on, and voted for by every member. Schedules were the most vital

point under consideration. But other points could not be ignored, and these could only be determined by actual performance. Now, does that answer all your questions, Mr. Brett?"

"No, it doesn't!" yelled Brett.

"Oh, sit down, Brett!" shouted a voice from the back of the room.

"Yes! Sit down and shut up!" called another. "We're in this too, you know!"

Brett turned on them angrily, but finally sat down, scowling.

In the rear of the room Tom nudged Roger. "Boy! The commander sure knows how to lay it on the line when he wants to, doesn't he?"

"I'll say!" replied Roger. "That guy Brett better watch out. Both the commander and Captain Strong look as if they're ready to pitch him out on his ear."

Six feet tall, and looking crisp, sure, and confident in his black-and-gold uniform, Captain Steve Strong stood near Walters and scowled at Brett. Unit instructor for the *Polaris* crew and Commander Walters' executive officer, Strong was not as adept as Walters in masking his feelings, and his face clearly showed his annoyance at Brett's outbursts. He had sat the full forty-eight hours with the Council while they argued, not over costs, but in an effort to make sure that none of the companies would be slighted in their final decision. It made his blood boil to see someone like Brett selfishly disregard these efforts at fairness.

"That is all the information I can give you, gentlemen," said Walters finally. "Thank you for your kind attention"—he shot an ironic glance at Brett—"and for your understanding of a difficult situation. Now you must excuse me. Captain Strong, whom you all know, will fill in the details of the race."

As Walters left the room, Strong stepped to the desk, faced the assembly, and spoke quickly. "Gentlemen, perhaps some of you are acquainted with the present jet car race that takes place each year? The forerunner of that race was the Indianapolis Five-Hundred-Mile Race of some few hundred years ago. We have adopted their rules for our own speed tests. Time trials will be held with all interested companies contributing as many ships that they think can qualify, and the three ships that make the fastest time will be entered in the actual race. This way we can eliminate the weaker contenders and reduce the chance of accidents taking place millions of miles out in space. Also, it will result in a faster time for the winner. Now, the details of the race will be given to your chief pilots, crew chiefs, and power-deck officers at a special meeting in my office here in the Tower building tomorrow. You will receive all information and regulations governing the minimum and maximum size of the ships entered, types of reactor units, and amount of ballast to be carried."

"How many in the crew?" asked a man in the front.

"Two," replied Steve, "or if the ship is mostly automatic, one. Either can be used. The Solar Guard will monitor the race, sending along one of the heavy cruisers." Strong glanced at his notes. "That is all, gentlemen. Are there any questions?"

There were no questions and the men began to file out of the room. Strong was relieved to see Brett was among the first to leave. He didn't trust himself to keep his temper with the man. As the room emptied, Strong stood at the door and grabbed Kit Barnard by the sleeve. "Hello, spaceman!" he cried. "Long time, no see!"

"Hello, Steve," replied Kit, with a slow, warm smile.

"Say! Is that the way to greet an old friend after four, or is it five years?"

"Five," replied Kit.

"You look worried, fellow," said Strong.

"I am. This race business leaves me holding the bag."

"How's that?"

"Well, I made a bid on the strength of a new reactor unit I'm trying to develop," explained Kit. "If I had gotten the contract, I could have made a loan from the Universal Bank and completed my work easily. But now—" Kit stopped and shook his head slowly.

"What is this reactor?" Strong asked. "Something new?"

"Yes. One quarter the size of present standard reactors and less than half the weight." Kit's eyes began to glow with enthusiasm as he spoke. "It would give me extra space in my ships and be economical enough on fuel for me to be able to compete with the larger outfits and their bigger ships. Now, all I've got is a reactor that hasn't been tested properly, that I'm not even sure will work on a long haul and a hot race."

"Is there any way you can soup up one of your present reactors to make this run?" asked Strong.

"I suppose so," added Kit. "I'll give the other fellows a run for their money all right. But it'll take every credit I have. And if I don't win the race, I'm finished. Washed up."

"Excuse me, Captain Strong," said Tom Corbett, coming to attention. "Major Connel ordered us to report here for special assignment."

"Oh, yes," said Strong, turning to Tom, Roger, and Astro with a smile. "Meet Kit Barnard. Kit—Tom Corbett, Roger Manning, and Astro, the *Polaris* unit. My unit," he added proudly.

The boys saluted respectfully, and Barnard smiled and shook hands with each of them.

"You've heard about the race now," said Strong to Tom.

"Yes, sir," replied the young cadet. "It sounds exciting."

"It will be, with spacemen like Kit Barnard, Charley Brett, and the other men of the big outfits competing. You're going to work with me on the time trials, and later the *Polaris* will be the ship that monitors the race. But first, you three will be inspectors."

"Of what, sir?" asked Roger.

"You'll see that all regulations are observed—that no one gets the jump on anyone else. These men will be souping up their reactors until those ships will be nothing but 'go,' and it's your job to see that they use only standard

equipment."

"We're going to be real popular when we tell a spaceman he can't use a unit he's rigged up specially," commented Astro with a grin.

Tom laughed. "We'll be known as the cadets you love to hate!"

"Especially when you run up against Charley Brett," said Kit.

The cadets looked at the veteran spaceman inquiringly, but he was not smiling, and they suddenly felt a strange chill of apprehension.

CHAPTER 3

"It's about time you got here!"

Charley Brett glared angrily at his chief pilot, Quent Miles, as he sauntered into the office and flopped into a chair.

"I had a heavy date last night. I overslept," the spaceman replied, yawning loudly.

"We're late for Strong's meeting over at the Academy," Brett snapped. "Get up! We've got to leave right away."

Quent Miles looked at the other man, his black eyes gleaming coldly. "I'll get up when I'm ready," he said slowly.

The two men glared at each other for a moment, and finally Brett lowered his eyes. Miles grinned and yawned again.

"Come on," said Brett in a less demanding tone. "Let's go. No use getting Strong down on us before we even get started."

"Steve Strong doesn't scare me," replied Miles.

"All right! He doesn't scare you. He doesn't scare me, either," said Brett irritably. "Now that we both know that neither of us is scared, let's get going."

Quent smiled again and rose slowly. "You know something, Charley?" he said in a deceptively mild voice. "One of these days you're going to get officious with the wrong spaceman, one that isn't as tolerant as I am, and you're going to be pounded into space dust."

Quent Miles stood in front of Brett's desk and stretched like a languid cat. Brett noted the powerful hands and arms and the depth of the shoulders and chest, all emphasized by the tight-fitting clothes the spaceman affected. The man was dark and swarthy, and dressed all in black. Brett had often imagined that if the devil ever took human form it would look like Quent Miles. He shivered uncontrollably and waited. Finally Miles turned to him, a mocking smile on his face.

"Well, Charley? What are we waiting for?"

A few moments later they were speeding through the broad streets of Atom City in a jet cab on the way to the Atom City spaceport.

"What's this all about?" demanded Quent, settling back in his seat. "Why the rush call?"

"I didn't get the contract to haul the crystal," replied Brett grimly. "All the bids were so close the Solar Council decided to have a space race out to Titan to pick the outfit that would get the job."

Quent turned toward him, surprised. "But I thought you had all that sewed

up tight!" he exclaimed. "I thought after you got your hands on the—"

"Shut up!" interrupted Brett. "The details on the specifications leaked out. Now the only way I can get the contract is to win the race."

"And I'm the guy to do it?" asked Quent with a smile.

"That's what you're here for. If we don't win this race, we're finished. Washed up!"

"Who else is in the race?"

"Every other major space-freight outfit in the system," replied Brett grimly. "And Kit Barnard."

"Has Barnard got that new reactor of his working yet?"

"I don't think so. But I have no way of telling."

"If he has, you're not going to win this race," said Quent, shaking his head. "Nor is anyone else."

"You are here for one reason," said Brett pointedly.

"I know." Quent grinned. "To win a race."

"Right."

Quent laughed. "With those heaps you've fooled people into thinking are spaceships? Don't make me laugh."

"There are going to be time trials before the race," said Brett. "The three fastest ships are going to make the final run. I'm not worried about the race itself. I've got a plan that will assure us of winning. It's the time trials that's got me bothered."

"Leave that to me," said Quent.

The jet cab pulled up to the main gate of the spaceport and the two men got out. Far across the field, a slender, needle-nosed ship stood poised on her stabilizer fins ready for flight. She was black except for a red band painted on the hull across the forward section and around the few viewports. It gave her the appearance of a huge laughing insect. Quent eyed the vessel with a practiced eye.

"I'll have to soup her up," he commented. "She wouldn't win a foot race now."

"Don't depend too heavily on your speed," said Brett. "I would just as soon win by default. After all," he continued, looking at Miles with calculating eyes, "serious accidents could delay the other ships."

"Sure. I know what you mean," replied the spaceman.

"Good!" Brett turned away abruptly and headed for the ship. Quent following him. In a little while the white-hot exhaust flare from the rocket tubes of the sleek ship splattered the concrete launching apron and it lifted free of the ground. Like an evil, predatory bug, the ship blasted toward the Academy spaceport.

* * * * *

"Well, blast my jets!" Astro gasped, stopping in his tracks and pointing. Tom and Roger looked out over the quadrangle toward the Academy spaceport where ship after ship, braking jets blasting, sought the safety of the ground.

"Great galaxy," exclaimed Tom, his eyes bulging, "there must be a hundred ships!"

"At least," commented Roger.

"But they can't all be here for the trials," said Astro.

"Why not?" asked Roger. "This is a very important race. Who knows what ship might win? It pays the company to enter every ship they have."

"Great galaxy! There must be a hundred ships!"

"Roger's right, Astro," said Tom. "These fellows are playing for big stakes. Though I don't think there'll be more than thirty or forty ships in the actual speed trials. See those big-bellied jobs? They're repair ships."

"I hadn't thought about that," acknowledged the big Venusian cadet. "They'll probably be jazzing up those sleek babies and that takes a lot of repair and work."

"Come on," said Tom. "We've got to get over to the meeting. Captain Strong said he wanted us to be there."

The three cadets turned back toward the nearest slidewalk and hopped on. None of them noticed the black ship with the red band around its bow which suddenly appeared over the field, rockets blasting loudly as it began to drop expertly to the ground.

From early morning the skies over the Academy had been vibrating to the thunderous exhausts of the incoming fleet of ships. Painted with company colors and insignia, the ships landed in allotted space on the field, and almost immediately, mechanics, crew chiefs, and specialists of all kinds swarmed over the space vessels preparing them for the severest tests they would ever undergo. The ships that actually were to make the trial runs were stripped of every spare pound of weight, while their reactors were taken apart and specially designed compression heads were put on the atomic motors.

The entire corps of Space Cadets had been given a special three-day holiday to see the trials, and the Academy buildings were decorated with multicolored flags and pennants. A festive atmosphere surrounded the vast Solar Guard installation.

But in his office in the Tower of Galileo, Captain Strong paced the floor, a worried frown on his face. He stepped around his desk and picked up a paper to re-read it for the tenth time. He shook his head and flipped open the key of his desk intercom, connecting him with the enlisted spaceman in the next office.

"Find Kit Barnard, spaceman!" Strong called. "And give him an oral message. *Personal.* Tell him I said he can't use his reactor unit unless he changes it to more standard operational design." Strong paused and glanced at the paper again. "As it stands now, his reactor will not be approved for the trials," he continued. "Tell him he has until midnight tonight to submit new specifications."

As Strong closed the intercom key abruptly, the three members of the *Polaris* unit stepped into his office and saluted smartly. Strong looked up. "Hello, boys. Sit down." He waved them to nearby chairs and turned back to his desk. The drawn expression of their unit commander did not go unnoticed.

"Is there something wrong, sir?" asked Tom tentatively.

"Nothing much," replied Strong wearily. He indicated the sheaf of papers in front of him. "These are reactor-unit specifications submitted by the pilots and crew chiefs of the ships to be flown in the time trials. I've just had to reject Kit Barnard's specifications."

"What was the matter?" asked Astro.

"Not enough safety allowance. He's running too close to the danger point in feeding reactant to the chambers, using D-18 rate of feed and D-9 is standard."

"What about the other ships, sir?" asked Tom. "Do they all have safety factors?"

Strong shrugged his shoulders. "They all specify standard reaction rates without actually using figures," he said. "But I'm certain that their feeders are being tuned up for maximum output. That's where your job is going to come in. You've got to inspect the ships to make sure they're safe."

"Then Kit Barnard put down his specifications, *knowing* that there was a chance they wouldn't pass," Tom remarked.

Strong nodded. "He's an honest man."

The door opened and several men stepped inside. They were dressed in the mode of merchant space officers, wearing high-peaked hats, trim jackets, and trousers of a different color. Strong stood up to greet them.

"Welcome, gentlemen. Please be seated. We will begin the meeting as soon as all the pilots are here."

Roger nudged Astro and whispered, "What's the big deal about a D-18 rate and a D-9 rate? Why is that so important?"

"It has to do with the pumps," replied the power-deck cadet. "They cool the reactant fuel to keep it from getting too hot and wildcatting. At a D-9 rate the reactant is hot enough to create power for normal flight. Feeding at a D-18 rate is fine too, but you need pumps to cool the motors, and pumps that could do the job would be too big."

"Kit's problem," commented Tom, "is not so much building the reactor, but a cooling system to keep it under control."

"Will that make a big difference in who wins the race?" asked Roger.

"With that ship of Kit's," said Astro, shaking his head, "I doubt if he'll be able to come even close to the top speeds in the trials unless he can use the new reactor."

The room had filled up now and Strong rapped on the desk for attention. He stared at the faces of the men before him, men who had spent their lives in space. They were the finest pilots and crew chiefs in the solar system. They sat quietly and attentively as Strong gave them the details of the greatest race of spaceships in over a hundred years.

After Strong had outlined the plans for the time trials, he concluded, "Each of you competing in the time trials will be given a blast-off time and an orbital course. Only standard, Solar-Guard-approval equipment will be allowed in the tests. I will monitor the trials, and Space Cadets Corbett, Manning, and Astro will be in complete charge of all inspections of your ships." Strong paused and looked around. "Are there any questions?"

"When will the first ship blast off, Captain Strong?" asked a lean and leathery-looking spaceman in the back of the room.

"First time trial takes place at 0600 hours tomorrow morning. Each ship has a designated time. Consult your schedules for the blast-off time of your ships."

"What if a ship isn't ready?" asked Kit Barnard, who had slipped into the room unnoticed.

"Any ship unable to blast off at scheduled time," said Strong, finding it

difficult to look at his old friend, "will be eliminated."

There was a sudden murmur in the room and Quent Miles rose quickly. "That's not much time to prepare our ships," he said. "I don't know who's going to be first, but I can't even strip my ship by tomorrow morning, let alone soup up the reactant." His voice was full of contempt, and he glanced around the room at the other pilots. "Seems to me we're being treated a little roughly."

There were several cries of agreement.

Strong held up his hand. "Gentlemen, I know it is difficult to prepare a ship in twelve hours for a race as important as this one," he said. "But I personally believe that any spaceman who really wants to make it can make it!"

"Well, I'm not going to break my back to make a deadline," snarled Quent. "And I don't think any of the other fellows here will either."

"If you are scheduled to blast off tomorrow at 0600 hours, Captain Miles," Strong announced coldly, "and you are unable to raise ship, you will be eliminated."

Stifling an angry retort, Quent Miles sat down, and while Strong continued to answer questions, Astro, a worried frown on his face, stared at the spaceman dressed in black. Tom noticed it. "What's wrong with you, Astro?" he asked.

"That spaceman Miles," replied Astro. "I could swear I know him, yet I'm sure that I don't."

"He's not a very ordinary-looking guy," observed Roger. "He's plenty big and he's so dark that it wouldn't be easy to mistake him."

"Still," said Astro, screwing up his forehead, "I know I've seen him before."

"If there are no further questions, gentlemen," said Strong, "we'll close this meeting. I know you're anxious to get to your ships and begin work. But before you go, I would like to introduce the cadet inspectors to you. Stand up, boys."

Self-consciously, Tom, Roger, and Astro stood up while Strong addressed the pilots.

"Cadet Manning will be in charge of all electronics inspections, Cadet Astro in charge of the power deck, and Cadet Corbett will cover the control deck and over-all inspection of the ship itself."

Quent Miles was on his feet again, shouting, "Do you mean to tell me that we're going to be told what we can and can't do by those three kids!" He turned and glared at Tom. "You come messing around my ship, buster, and you'll be pitched out on your ear!"

"If the cadets do not pass on your ship," said Strong, with more than a little edge to his voice, "it will not get off the ground."

The two men locked eyes across the room.

"We'll see about that!" growled Miles, and stalked from the room, his heavy shoulders swinging from side to side in an exaggerated swagger.

"I believe that's all, gentlemen," announced Strong coldly, "and spaceman's luck to each of you."

After the men had left, the three cadets crowded around Strong. "Do you think we'll have any trouble with Miles, sir?" asked Tom.

"You have your orders, Tom," said Strong. "If any ship does not meet standards established for the race, it will be disqualified!"

Astro stared at the doorway through which Quent Miles had disappeared. He scratched his head and muttered, "If it wasn't for just one thing, I'd swear by the stars that he's the same spaceman who—" He stopped and shook his head.

"Who what?" asked Strong.

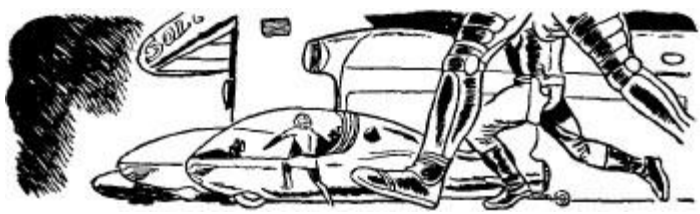
"Nothing, sir," said Astro. "I *must* be mistaken. It can't be the same man."

"I suggest that you sleep out at the spaceport tonight," said Strong. "The first ship will have to be inspected before she blasts off, and that means you will have to look her over before six."

"Yes, sir," replied Tom.

"And watch out for Quent Miles," warned Strong.

"Yes, sir," said the curly-haired cadet. "I know what you mean."



CHAPTER 4

"The course is to Luna and return! Spaceman's luck."

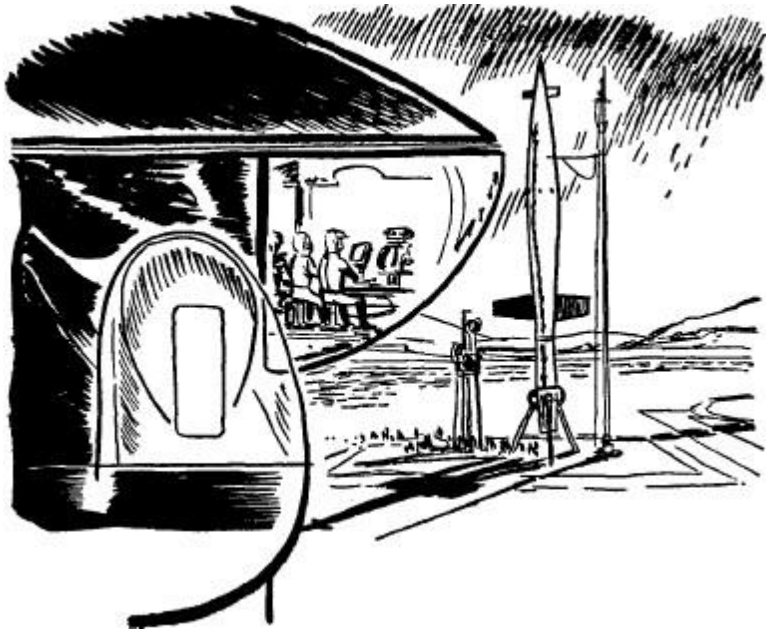
Captain Strong's voice rasped out over the public address system as a lone spaceship stood poised on the starting ramp, her ports closed, her crew making last-minute preparations. Ringing the huge spaceport, crews from other ships paused in their work to watch the first vessel make the dash around the Moon in a frantic race against the astral chronometer. In the temporary grandstands at the north end of the field, thousands of spectators from cities all over Earth leaned forward, hushed and expectant.

"Are you ready *Star Lady?*" Strong called, his voice echoing over the field.

A light flashed from the viewport of the ship.

"Stand by to raise ship!" roared Strong. "Blast off, minus five, four, three, two, one—*zero!*"

There was a sudden, ear-shattering roar and smoke and flame poured from the exhaust of the ship, spilling over the blast-off ramp. The ship rocked from side to side gently, rose into the air slowly, and then gathering speed began to move spaceward. In a moment it was gone and only the echoing blasts of thunder from its exhausts remained.

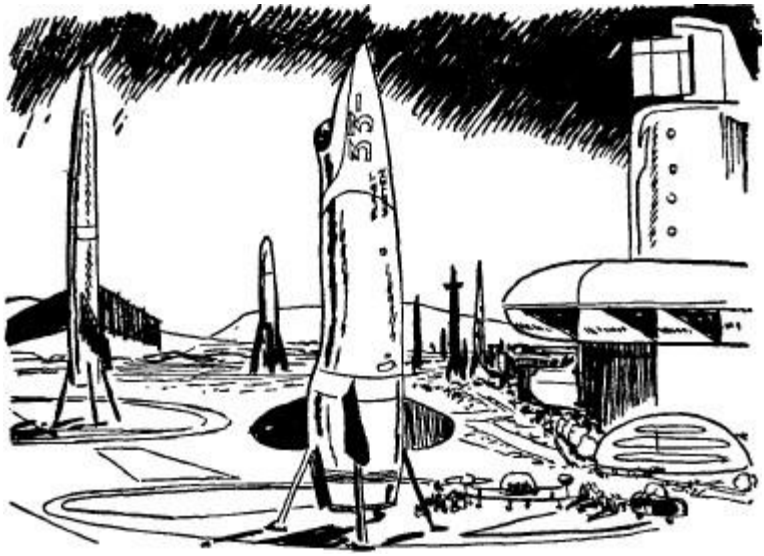


"There goes number one," said Tom to his unit mates as they watched from a vantage point near one of the service hangars.

"He got a pretty shaky start there at the ramp," commented Astro. "He must've poured on so much power, he couldn't control the ship."

"Heads up, fellas," announced Roger suddenly. "Here comes work." Kit Barnard was walking toward them, carrying a small metallic object in his hand.

"'Morning, boys," said Kit with a weary smile. His eyes were bloodshot. The cadets knew he had worked all night to revise and resubmit his specification sheet to Strong.



"'Morning, sir," said Tom.

"I'd like to have you O.K. this gear unit. I made it last night."

Astro took the gear and examined it closely.

"Looks fine to me," he said finally, handing it back. "Part of your main pumps?"

"Why, yes," replied Kit, surprised. "Say, you seem to know your business."

"Only the best rocket buster in space, sir," chimed in Tom. "He eats, sleeps, and dreams about machinery on a power deck."

"Is that for your new reactor, sir?" asked Astro.

"Yes. Want to come over and take a look at it?"

"Want to!" exclaimed Roger. "You couldn't keep him away with a ray gun, Captain Barnard."

"Fine," said Kit. "Incidentally, I'm not in the Solar Guard any more; don't even hold a reserve commission, so you don't have to 'sir' me. I'd prefer just plain Kit. O.K.?"

The three boys grinned. "O.K., Kit," said Tom.

Astro began to fidget and Tom nudged Roger. "Think we can spare the Venusian for a little while?"

"Might as well let him go," grunted Roger. "He'd only sneak off later, anyway."

Astro grinned sheepishly. "If anyone wants me to check anything, I'll be over at Kit's. Where is your ship?" he asked the veteran spaceman.

"Hangar Fourteen. Opposite the main entrance gate."

"Fine, that's where I'll be, fellows. See you later."

With Astro bending over slightly to hear what Kit was saying, the two men

walked away. Roger shook his head. "You know, I still can't get used to that guy. He acts like a piece of machinery was a good-looking space doll!"

"I've seen you look the same way at your radarscope, Roger."

"Yeah, but it's different with me."

"Is it?" said Tom, turning away so that Roger would not see him laughing. And as he did, he saw something that made him pause. In front of the hangar, Captain Strong was talking to Quent Miles. There was no mistaking the tall spaceman in his severe black clothes.

"Here comes more work," muttered Tom. Quent had turned away from Strong and was walking toward them.

"Strong said I had to get you to O.K. this scope," said Quent with a sneer. "Hurry it up! I haven't got all day."

He handed them a radarscope that was common equipment on small pleasure yachts, and was considerably lighter in weight than the type used on larger freight vessels.

"What's the gross weight of your ship?" asked Roger after a quick glance at the large glass tube with a crystal surface that had been polished to a smooth finish.

"Two thousand tons," said Quent. "Why?"

Roger shook his head. "This is too small, Mr. Miles. You will have to use the standard operational scope."

"But it's too big."

"I'm sorry, sir—" began Roger.

"Sorry!" Quent exploded. "Give me that tube, you squirt." He snatched it out of Roger's hand. "I'm using this scope whether you like it or not!"

"If you use that scope," said Tom coldly, "your ship will be disqualified."

Quent glared at the two boys for a moment, his black eyes cold and hard. "They make kids feel mighty important around here, don't they?"

"They give us jobs to do," said Roger. "Usually we can handle them fine. Occasionally we run into a space-gassing bum and he makes things difficult, but we manage to take care of him."

Quent stepped forward in a threatening manner, but Roger did not move. "Listen," the spaceman snarled, "stay out of my way, you young punk, or I'll blast you."

"Don't ever make the mistake of touching me, Mister," said Roger calmly. "You might find that you're the one who's blasted."

Quent stared at them a moment, then spun on his heels and swaggered back to his ship.

"You know, Roger," said Tom, watching Miles disappear into the hangar, "I have an idea he is one spaceman who'll back up his threats."

Roger ignored Tom's statement. "Come on. We've got a lot of work to do," he said, turning away.

The two cadets headed for the next hangar and boarded a ship with the picture of a chicken on its nose. While Roger examined the communications

and astrogation deck, Tom busied himself inspecting the control deck, where the great panels of the master control board were stripped of everything but absolute essentials. Later, they called Astro back to make a careful inspection of the power deck on the ship. While they waited for the Venusian cadet, Tom and Roger talked to the pilot.

Gigi Duarte was a small, dapper Frenchman who somehow, in the course of his life, had acquired the nickname "Chicken" and it had been with him ever since. The cadets had met him once before when they rode on a passenger liner from Mars to Venusport and liked the small, stubby spaceman. Now, renewing their friendship, the boys and "Gigi the Chicken" sat on the lower step of the air lock and chatted.

"This is the greatest thing that has happened to me," said Gigi. "Ever since I can remember, I have wanted to race in space!"

"Don't get much chance when you're hauling passengers around, I guess," said Tom.

Gigi shook his head. "One must always be careful. Just so fast, over a certain route, taking all the precautionary steps for fuel! Bah! But this flight! This time, I will show you speed! Watch the French Chicken and you will see speed as you have never—" Suddenly he stopped and frowned. "But you cannot see me. I will be going too fast!"

Tom and Roger laughed. After Astro joined them, they shook hands with the Frenchman, wished him luck, and went to the next ship to inspect it. Gigi's ship was already being towed out to the blast-off ramp, and by the time the three boys had completed their inspection of the next ship, the gaily colored French ship flashed the ready signal to Strong.

"Blast off, minus five, four, three, two, one—*zero!*" Strong's voice boomed out over the loud-speakers and the French Chicken poured on the power. His ship arose from the ground easily, and in five seconds was out of sight in the cloudless skies above.

* * * * *

All day the spaceport rocked with the thunderous noise of stripped-down spaceships blasting off on their trial runs around the Moon. Kit Barnard worked like a demon to complete the cooling system in his aged ship, and as each ship blasted off on its scheduled run to the Moon, the time for his own flight drew nearer. Kit worked with his chief crewman, Sid Goldberg, a serious, swarthy-faced youngster who rivaled Astro in his love for the power-deck machinery on a spaceship. By nightfall, with Tom, Roger, and Astro standing by to make their final inspection, Kit wiped the oil and grime from his hands and stepped back. "Well, she's finished. You can make your

inspections now, boys," he said.

While Tom, Astro, and Roger swarmed over the vessel, examining the newly designed and odd-looking gear, the veteran spaceman and his young helper stretched out on the concrete ramp and in thirty seconds were asleep.

The *Polaris* unit quickly checked out Kit's ship as qualified for the race, and then turned, fascinated, to the tangle of pipes, cables, and mechanical gear of the reactor unit and cooling pumps. Tom and Roger were unable to figure out exactly what changes Kit had made, but Astro gazed at the new machinery fondly, almost rapturously. He tried to explain the intricate work to his unit mates, but would stop in the middle of a sentence when a new detail of the construction would catch his eye.

"Come on, Roger," Tom sighed. "Let's go on to the next ship. This lovesick Venusian can catch up with us later."

They turned away and left Astro alone on the power deck, doubtful that he had even noticed their departure.

The trials had been suspended at nightfall, and the ships that had already blasted off left sections of the huge spaceport empty. The day had been a grueling one for the cadets, and Tom and Roger climbed wearily on the nearest slidewalk that would take them back to the Academy grounds. Just as they rode through the main field gate, Roger nudged Tom. "Look! There's Quent Miles up ahead of us," he said. "Isn't he scheduled to blast off in the morning?"

"Yes. Why?" asked Tom.

"He hasn't called us in to inspect his ship yet."

"Maybe he isn't ready yet," said Tom. "Probably still souping it up."

"I've been watching him. He hasn't done very much."

"What do you mean?"

"He's the only one working on his ship," replied Roger. "Not one helper."

Tom snorted. "You're beginning to suspect everything, Roger. He might be going to get a part or grab a bite to eat."

"Where? In Atom City?" asked Roger. "That's the slidewalk to the monorail station." He pointed to the black-suited figure as he hopped on another moving belt that angled away from theirs.

"Oh, forget it," groaned Tom. "I'm too tired to think about it now. Let's just report to Captain Strong and get some sack time. I'm all out of reactant."

"I suppose Astro will spend half the night trying to figure out what it took Kit Barnard years to build," mused Roger.

"And if I know Astro," chuckled Tom, "he'll get it figured out too!"

As the two weary cadets continued their ride into the Academy grounds, on another slidewalk going in the opposite direction, Quent Miles watched the darkening countryside closely. It was several miles from the Academy to the monorail station, and the moving belt dipped and turned through the rugged country that surrounded Space Academy. Suddenly Quent straightened, and making certain no one was watching him, he jumped off the slidewalk and

hurried to a clump of bushes a few hundred yards away. He disappeared into the thick foliage and then reached inside his tunic and pulled out a paralo-ray gun.

"You in here, Charley?" Miles whispered.

There was a movement to his left and he leveled the gun. "All right! Come out of there!"

The bushes parted and Charley Brett stepped out. "Put that thing away!" he snarled. "What's that for?"

"After I got your message to meet you out here, I didn't know what was up, so I brought this along just in case," Quent replied. "What's so secret that you couldn't come to the spaceport?"

"I've got the stuff for Kit Barnard's reactor."

"What stuff?"

"This." Brett took a small lead container out of his pocket and handed it to Quent. "This is impure reactant. Dump it into his feeders and we can count him out of the race."

Quent took the lead container, looked at it, and then stuffed it inside his tunic. "What'll happen?"

"Nothing. He'll just get out in space and find his pumps won't handle the heat from his feeders, that's all. He's the only one I'm worried about."

"Reports are coming in from Luna City. You can worry about Gigi Duarte, too. He's burning up space."

"Ross is at the Luna spaceport," replied Brett. "He'll take care of any ship that looks like it's going to be too fast."

"Then why not have him take care of Kit Barnard too?" demanded Quent. "There will be less chance of getting caught. Remember, I've got those three Space Cadets and Strong to worry about."

"You can't expect to get what we're after unless you take chances. Now get back to the spaceport and put this stuff in Barnard's feeders. You blast off tomorrow morning before he does and won't have much time."

"O.K.," agreed Quent. "When did Ross get to Luna City?"

"Yesterday. I had him come in from the hide-out."

"You think there'll be any cause for suspicion with him on the Moon and me down here?" asked Quent.

"When you land at Luna City spaceport, he'll disappear. By that time we should know how the time trials are shaping up."

"O.K. Where are you going now?"

"Back to the office. I've still got some things to check on before the big race. We're going to use the hide-out for that."

A smile spread across Quent Miles' face. "So that's it, eh? Pretty clever, Charley. Ross know about it?"

"Yeah. He's leaving as soon as he knows we've won the time trials. Now get back to the spaceport and take care of Barnard's ship."

Quent slipped his hand inside his tunic and patted the lead container. "Too

bad this isn't a baby bomb," he muttered. "We could be sure Barnard wouldn't finish."

"He's finished right now, but he doesn't know it." Brett smiled. "He's borrowed heavily just on this race, and when he loses, the banks will close him up. Kit Barnard is through."

CHAPTER 5

"We regret to announce that the spaceship *La Belle France*, piloted by Gigi Duarte, has crashed!"

Captain Strong's voice was choked with emotion as he made the announcement over the spaceport public-address system. There was an audible groan of sympathy from the thousands of spectators in the grandstands. In spite of every precaution for safety, death had visited the spaceways.

Strong continued, "We have just received official confirmation from Luna City that the Paris-Venusport Transfer Company entry exploded in space soon after leaving Luna City. Captain Duarte had flown the first leg of the race from Earth to the Moon in record time."

The Solar Guard officer snapped off the microphone and turned to Tom, Roger, and Astro. "It's hard to believe that the French Chicken won't be shuttling from Paris to Venusport any more," he murmured.

"Are there any details, sir?" asked Tom.

"You know there are never any details, Corbett," said Strong with a little edge in his voice. Then he immediately apologized. "I'm sorry, Tom. Gigi was an old friend."

The door behind them opened and an enlisted spaceman stepped inside, saluting smartly. "Ready for the next blast-off, Captain Strong," he announced.

"Who is it?" asked Strong, turning to the intercom connecting him with the control tower that co-ordinated all the landings and departures at the spaceport.

The spaceman referred to a clipboard. "It's the *Space Lance*, sir. Piloted by Captain Sticoon. He's representing an independent company from Marsopolis."

"Right, thanks." Strong turned to the intercom mike, calling, "Captain Strong to control tower, check in."

"Say, I'd like to see this fellow blast," said Tom. "He's supposed to be one of the hottest pilots ever to hit space."

"Yeah," agreed Roger. "He's so good I don't see how anyone else could have a chance."

"With that hot rocket in this race," said Astro, "the others will have to fight for second and third place."

"Control tower to Strong," a voice crackled over the intercom loud-speaker.

"Ready here, sir."

"Right. Stand by for the next flight, Mac," replied Strong. "It's Sticoon."

Strong flipped a switch on the intercom to direct contact with the waiting ship and gave Sticoon the oft-repeated final briefing, concluding, "Do not go beyond the necessary limitations of fuel consumption that are provided for in the Solar Guard space code. If you return here with less than a quarter supply of reactant fuel, you will be disqualified. Stand by to blast off!"

"Uh-huh!" was all the acknowledgment Strong received from the Martian. Famed for his daring, Sticoon was also known for his taciturn personality.

"Clear ramp! Clear ramp!" Strong boomed over the public-address system. When he received the all-clear from the enlisted spaceman on the ramp, Strong flipped both the public-address system and the intercom on. "Stand by to raise ship!"

He glanced at the astral chronometer. "Blast off, minus five, four, three, two, one—*zero!*"

Tom, Roger, and Astro crowded to the viewport in Strong's command shack to watch the bulky Martian's ship take to space. With Sticoon at the controls, there was no hesitation. He gave the ship full throttle from the moment of blast-off and in three seconds was out of sight. There wasn't much to see at such speed.

The three members of the *Polaris* unit left the shack to return to their task of inspection. They passed the maintenance hangar where Kit Barnard was readying his ship for blast-off in the next half hour.

"Any last-minute hitches, Kit?" asked Astro, vitally interested in the new reactor unit and its cooling system.

Kit smiled wearily and shook his head. "All set!"

"Good." Tom smiled. "We'll try to be back before you blast. We've got to check Quent Miles' ship now."

As the three cadets approached the sleek black vessel with its distinctive markings, the air lock opened and Quent Miles stepped out on the ladder.

"It's about time you three jerks showed up," he sneered. "I have to blast off in twenty minutes! What's the idea of messing around with that Barnard creep? He hasn't got a chance, anyway."

"Is that so?" snapped Roger. "Listen—!"

"*Roger!*" barked Tom warningly.

Quent grinned. "That's right. Lay off, buster. Get to your inspecting and let a spaceman blast off."

"Kit Barnard will blast off after you, and still beat you back," growled Roger, stepping into the ship. He stopped suddenly and gasped in amazement. "Well, blast my jets!"

Tom and Astro crowded into the air lock and looked around, openmouthed. Before them was what appeared to be a hollow shell of a ship. There were no decks or bulkheads, nothing but an intricate network of ladders connecting the various operating positions of the spaceship. Everything that could be

removed had been taken out of the ship.

"Is this legal?" asked Roger incredulously.

"I'm afraid it is, Roger," said Tom. "But we're going to make sure that everything that's supposed to be in a spaceship is in this one."

"When I blast off, I don't intend carrying any passengers," growled Miles behind them. "If you're going to inspect, then inspect and stop gabbing."

"Let's go," said Tom grimly.

The three boys split up and began crawling around in the network of exposed supporting beams and struts that took the place of decks and bulkheads. It did not take them long to determine that Quent Miles' ship was in perfect condition for blast-off. With but a few minutes to spare, they returned to face Miles at the air lock.

"O.K., you're cleared," Tom announced.

"But it'll take more than a light ship to win this race," said Roger, and unable to restrain himself, he added, "You're bucking the best space busters in the universe!"

"One of them"—Quent held up his finger—"is dead."

"Yeah," growled Astro, "but there are plenty more just as good as Gigi Duarte."

The intercom buzzer sounded in the ship and Quent snapped, "Beat it! I've got a race to win." He pushed the three cadets out of the air lock and slammed the pluglike door closed. From two feet away it was impossible to spot the seams in the metal covering on the port and the hull.

"Clear ramp! Clear ramp!" Strong's voice echoed over the spaceport. Tom, Roger, and Astro scurried down the ladder and broke away from the ramp in a run. They knew Quent Miles would not hesitate to blast off whether anyone was within range of his exhaust or not.

"Blast off, minus five, four, three, two, one—*zero!*"

Again the spaceport reverberated to the sound of a ship blasting off. All eyes watched the weirdly painted black ship shudder under the surge of power, and then shoot spaceward as if out of a cannon.

"Well, ring me around Saturn," breathed Tom, looking up into the sky where the black ship had disappeared from view. "Whatever Quent Miles is, he can sure take acceleration."

"Spaceman," said Astro, taking a deep breath, "you can say that again. Wow!"

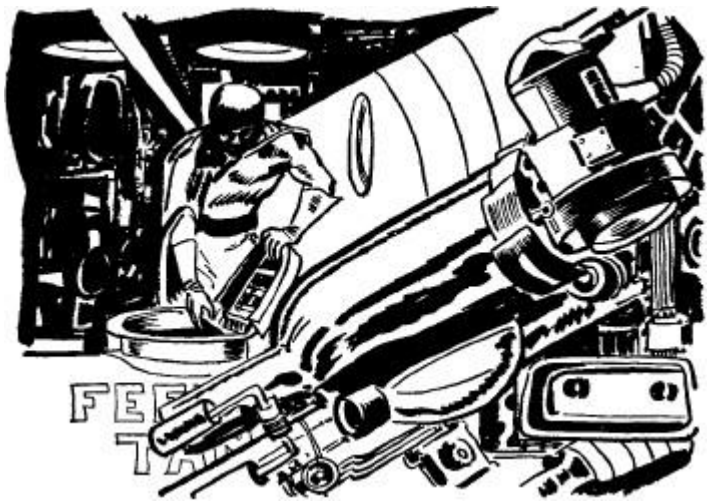
"I hope it broke his blasted neck," said Roger.

* * * * *

"And you saw him messing around here, Sid?" asked Kit Barnard of his

young helper.

"That's right," replied the crew chief. "I was on the control deck checking out the panel and I happened to look down. I couldn't see too well, but it was a big guy."



"Messing around the reactor, huh?" mused Kit, almost asking the question of himself.

"That's right. I checked it right away, but I couldn't find anything wrong."

"Well, it's too late now, anyway. I blast in three minutes." Grimly Kit Barnard looked up at the sky where the black ship had just vanished.

"Spaceman's luck, Kit," said Sid, offering his hand. Kit grasped it quickly and jumped into his ship, closing the air lock behind him.

As Sid climbed down from the ramp, the three cadets rushed up breathlessly, disappointed at being unable to give Kit their personal good wishes.

"Well, anyway, I gave the new reactor my blessing last night," said Astro as they walked away from the ramp.

"You were aboard the ship last night?" Sid exclaimed.

"Uh-huh," replied Astro. "Hope you don't mind."

"No, not a bit!" Sid broke into a smile. "Whew! I thought for a while it was Quent."

"What about Quent?" asked Tom.

"I saw someone messing around on the power deck last night and thought it might be Quent. But now that you say it was you, Astro, there isn't anything to worry about."

Reaching a safe distance from the ramp, they stopped just as Strong finished counting off the seconds to blast off.

"*Zero!*"

The three cadets and Sid waited for the initial shattering roar of the jets, but it did not come. Instead, there was a loud bang, followed by another, and then another. And only then did the ship begin to leave the ground, gradually picking up speed and shooting spaceward.

"What was wrong?" asked Tom, looking at Sid.

"The feeders," replied the young engineer miserably. "They're not functioning properly. They're probably jamming."

Astro looked puzzled. "But I checked those feeders myself, just before you closed the casing," he said. "They were all right then."

"Are you sure?" asked Sid.

"Of course I'm sure," said Astro. "Checking the feeders is one of my main jobs."

"Then it must be the reactant," said Tom. "Did Kit use standard reactant?"

Sid nodded. "Got it right here at the spaceport. Same stuff everyone else is using."

Gloomily the four young spacemen turned away from the ramp and headed for the control tower to hear the latest reports from the ships already underway. There were only a few more ships scheduled to blast off, and the cadets had already inspected them.

"Wait a minute," said Tom, stopping suddenly. "The fuel tanks are on the portside of the ship, and the feeders are on the starboard. Where did you see this fellow messing around, Sid?"

Sid thought a moment and then his face clouded. "Come to think of it, I saw him on the portside."

"I wasn't even close to the tanks!" exclaimed Astro.

"There was someone messing around them, then," said Roger.

"Yes," said Tom grimly. "But we don't know *who*—or *what* he did."

"From the sound of those rockets," said Astro, "Kit's feeders are clogged, or there's something in his reactant that the strainers are not filtering out."

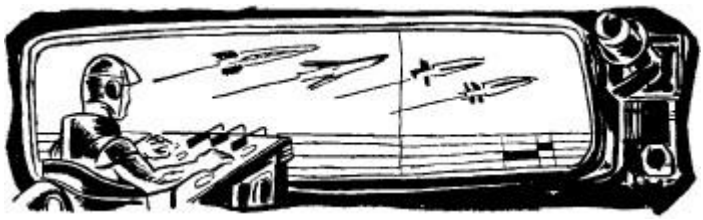
"Well," sighed Roger, "there isn't anything Kit can do but keep going and hope that everything turns out for the best."

"*If* he can keep going!" said Tom. "You know, there are some things about this whole race that really puzzle me."

"What?" asked Roger.

"Impure reactant in Kit's ship, after fellows like Kit, Astro, and Sid checked it a hundred times. Gigi Duarte crashing after making record speed to the Moon. The minimum specifications being stolen from Commander Walters…" Tom stopped and looked at his friends. "That enough?"

Roger, Astro, and Sid considered the young cadet's words. The picture Tom presented had many curious sides and no one had the slightest idea of how to go beyond speculation and find proof!



CHAPTER 6

"The winners are—" Captain Strong's voice rang loud and clear over the loud-speakers—"first place, Captain Sticoon, piloting the Marsopolis Limited entry, *Space Lance!* Second place, Captain Miles, piloting the Charles Brett Company entry, *Space Knight!* Third place, Captain Barnard, piloting his own ship, *Good Company!*"

There was a tremendous roar from the crowd. In front of the official stand, Tom, Roger, and Astro pounded Sid Goldberg on the back until he begged for mercy. On the stand, Strong and Kit shook hands and grinned at each other. And Commander Walters stepped up to congratulate the three winners. Walters handed each of them a personal message of good wishes from the Solar Council, and then, over the public-address system, made a short speech to the pilots of the losing ships thanking them for their co-operation and good sportsmanship. He paused, and in a voice hushed with emotion, offered a short prayer in memory of Gigi Duarte. The entire spaceport was quiet for two minutes without prompting, voluntarily paying homage to the brave spaceman.

After Walters left and the ceremonies were over, the three winners stood looking at each other, sizing up one another. Each of them knew that the winner of this race probably would go down in the history of deep space. There was fame and fortune to be won now. Quent Miles ignored Sticoon and swaggered over to Kit Barnard.

"You were lucky, Barnard," he sneered. "Too bad it won't last for the race."

"We'll see, Quent," said Kit coolly.

Sticoon said nothing, just watched them quietly. Quent Miles laughed and walked off the stand. Kit Barnard looked at Sticoon. "What's the matter with him?" he asked.

The Martian shrugged. "Got a hot rocket in his craw," he said quietly. "But watch your step with him, Kit. Personally, I wouldn't trust that spaceman as far as I could throw an asteroid."

Kit grinned. "Thanks—and good luck."

"I'll need it if you get that reactor of yours working," said the Martian.

He turned and left the stand without a word to Tom, Roger, or Astro. The three cadets looked at each other, feeling the tension in the air suddenly relax. Strong was busy talking to someone on the portable intercom and had missed the byplay between the three finalists.

"That Quent sure has a talent for making himself disliked," Tom

commented to his unit mates.

"And all he's going to get for it is trouble," quipped Sid, who would not let any argument take away the pleasure he felt over winning the trials. "I'm going back to our ship and find out what happened to those feeders."

"I'll come with you," volunteered Astro.

"Just a minute, Astro," interrupted Strong. "I've been talking with Commander Walters. He's on his way back to the Tower of Galileo and called me from the portable communicator on the main slidewalk. He wants me to report to his office on the double. You three will have to take care of the final details here."

"Come down when you can," said Sid to Astro, and turned to leave with Kit.

"Something wrong, sir?" asked Tom.

"I don't know, Tom," replied Strong, a worried frown on his face. "Commander Walters seemed excited."

"Does it have anything to do with the race?" asked Roger.

"In a way it does," replied Strong. "I'm leaving on special assignment. I'm not sure, but I think you three will have to monitor the race by yourselves."

* * * * *

Major Connel sat to one side of Commander Walters' desk, a scowl on his heavy, fleshy face. The commander paced back and forth in front of the desk, and Captain Strong stood at the office window staring blankly down on the dark quadrangle below. The door opened and the three officers turned quickly to see Dr. Joan Dale enter, carrying several papers in her hand.

"Well, Joan?" asked Walters.

"I'm afraid that the reports are true, sir," Dr. Dale said. "There are positive signs of decreasing pressure in the artificial atmosphere around the settlements on Titan. The pressure is dropping and yet there is no indication that the force screen, holding back the real methane ammonia atmosphere of Titan, is not functioning properly."

"How about leaks?" Connel growled.

"Not possible, Major," replied the pretty physicist. "The force field, as you know, is made up of electronic impulses of pure energy. By shooting these impulses into the air around a certain area, like the settlement at Olympia, we can refract the methane ammonia, push it back if you will, like a solid wall. What the impulses do, actually, is create a force greater and thicker in content than the atmosphere of Titan, creating a vacuum. We then introduce oxygen into the vacuum, making it possible for humans to live without the cumbersome use of space helmets." Dr. Dale leaned against Commander

Walters' desk and considered the three Solar Guard officers. "If we don't find out what's happening out there," she resumed grimly, "and do something about it soon, we'll have to abandon Titan."

"Abandon Titan!" roared Connel. "Can't be done."

"Impossible!" snapped Walters.

"It's going to happen," asserted the girl stoutly.

Connel sprang out of his chair and began pacing the floor. "We can't abandon Titan!" he roared. "Disrupt the flow of crystal and you'll set off major repercussions in the system's economy."

"We know that, Major," said Walters. "That's the prime reason for this meeting."

"May I make a suggestion, sir?" asked Strong.

"Go ahead, Steve," said Walters.

"While these graphs of Joan's show us *what's* happening, I think it will take on-the-spot investigations to find out *why* it's happening."

Connel flopped back in his chair, relaxed again. He looked at Walters. "Send Steve out there and we'll find out what's going on," he said confidently.

Walters looked at Strong. "When are the ships supposed to blast off for the race?"

"Tomorrow at 1800, sir."

"You planned to use the *Polaris* to monitor the race?"

"Yes, sir."

"Think we should send the *Polaris* unit out alone?"

"I have a better suggestion, sir," said Strong.

"Well?"

"Since there are only three finalists, how about putting one cadet on each ship? Then I can take the *Polaris* and go on out to Titan now. When the boys arrive, they could help me with my investigation."

Walters looked at Connel. "What do you think, Major?"

"Sounds all right to me," replied the veteran spaceman. "If you think the companies won't object to having cadets monitor their race for them."

"They won't have anything to say about it," replied Walters. "I'd trust those cadets under any circumstances. And the race won't mean a thing unless we can find the source of trouble on Titan. There won't be any crystal to haul."

"Fine," grunted Connel. He rose, nodded, and left the room. He was not being curt, he was being Connel. The problem had been temporarily solved and there was nothing else he could do. There were other things that demanded his attention.

"What about me going along too, Commander?" asked Joan.

"Better not, Joan," said Walters. "You're more valuable to us here in the Academy laboratory."

"Very well, sir," she said. "I have some work to finish, so I'll leave you now. Good luck, Steve." She shook hands with the young captain and left.

Walters turned back to Strong. "Well, now that's settled, tell me, what do

you think of the race tomorrow, Steve?"

"If Kit Barnard gets that reactor of his functioning properly, he'll run away from the other two."

"I don't know," mused Walters. "Wild Bill Sticoon is a hot spaceman. One of the best rocket jockeys I've ever seen. Did I ever tell you what we went through a few years back trying to get him to join the Solar Guard?" Walters laughed. "We promised him everything but the Moon. But he didn't want any part of us. 'Can't ride fast enough in your wagons, Commander,' he told me. Quite a boy!"

"And with Quent Miles in there, it's going to be a very hot race," asserted Strong.

"Ummmmh," Walters grunted. "He's the unknown quantity. Did you see that ship of his? Never saw anything more streamlined in my whole life."

"And the cadets said he stripped her of everything but the hull plates."

"It paid off for him," said Walters. "He and Charley Brett are certainly working hard to get this contract."

"There's a lot of money involved, sir," said Strong. "But in any case we're bound to get a good schedule with the speeds established so far."

"Well, advise the cadets to stand by for blast-off with the finalists tomorrow."

"Any particular ship you want them each assigned to, sir?" asked Strong.

"No, let them decide," replied Walters. "But it would be best if you could keep Manning away from Miles. That's like putting a rocket into a fire and asking it not to explode."

The two men grinned at each other and then settled down to working out the details of Strong's trip. Before the evening was over, Walters had decided, if necessary, he would follow Strong out to Titan.

In the distance, they could hear the muffled roar of rocket motors as the three finalists tuned up their ships, preparing for the greatest space race in history. And it seemed to Strong that with each blast there was a vaguely ominous echo.

* * * * *

"I've strained that fuel four times and come up with the same answer," said Astro. The giant Venusian held up the oil-smeared test tube for Kit Barnard's inspection. "Impure reactant. And so impure that it couldn't possibly have come from the Academy supply depot. It would have been noticed."

"Then how did it get in my feeders?" asked Kit, half to himself.

"Whoever was messing around on the power deck just before you blasted off for the trials must have dumped it in," said Tom.

"Obviously." Kit nodded. "But who is that? Who would want to do a dirty thing like that?"

"Who indeed?" said a voice in back of them. They all spun around to face Quent Miles. He lounged against the stabilizer fin and grinned at them.

"What do you want, Miles?" asked Kit.

"Just stopped by to give you the proverbial handshake of good luck before we blast off," replied the spaceman with a mocking wink.

"Kit doesn't need your good wishes," snapped Sid.

"Well, now, that's too bad," said Quent. "I have a feeling that he's going to need a lot more than luck."

"Listen, Miles," snapped Kit, "did you come aboard my ship and tamper with the fuel?"

Quent's eyes clouded. "Careful of your accusations, Barnard."

"I'm not accusing you, I'm asking you."

"See you in space." Quent laughed, turning to leave, not answering the question. "But then, again, maybe I won't see you." He disappeared into the darkness of the night.

"The nerve of that guy," growled Tom.

"Yes," Kit agreed, shrugging his shoulders. "But I'm more concerned about this unit than I am about Quent Miles and his threats. Let's get back to work."

Renewing their efforts, Tom, Roger, Astro, Sid, and Kit Barnard turned to the reactor unit and began the laborious job of putting it back together again, at the same time replacing worn-out parts and adjusting the delicate clearances.

It was just before dawn when Strong visited Kit's ship. Seeing the cadets stripped to the waist and working with the veteran spaceman, he roared his disapproval. "Of all the crazy things to do! Don't you know that you could have Kit disqualified for helping him?"

The giant Venusian held up the oil-smeared test tube

"But—but—" Tom tried to stammer an explanation.

"I couldn't have done it alone," explained Kit. He looked at Strong and their eyes met. Understanding flowed between them.

"Very well," said Strong, fighting to control himself. "If no one makes a

complaint against you, we'll let it pass."

"Thanks, Steve," said Kit.

"You should have known better, Kit," said Strong. "The Solar Guard is supposed to be neutral throughout the entire race and do nothing but judge it."

"I know, Steve," said Kit. "But someone dumped impure reactant into my __"

"What?" It was the first time Strong had heard of it and he listened intently as the cadets and Sid told him the whole story.

"Why didn't you make a complaint?" demanded Strong finally. "We'd have given you more time to get squared away."

"It's not important," said Kit. "I won a place in the finals and now the boys and Sid have helped me clean it out."

Strong nodded. "All right. I guess one seems to balance out the other. Forget it." He smiled. "And excuse me for jumping like that and thinking that you would do anything—er—" He hesitated.

"That's all right, Steve." Kit spoke up quickly to save his friend embarrassment.

Strong turned to the cadets. "I've got news for you three. You are going to monitor the race by yourselves."

Tom, Roger, and Astro looked at each other dumfounded as Strong quickly outlined the plan. Later, when Sid and Kit were working inside the ship, he told them of the sudden danger on Titan.

"So I'm going to leave it up to you which ship you want to ride," he concluded. "The commander has suggested that Roger not be sent along with Miles on the *Space Knight*. He seems to think the two of you wouldn't get along."

"On the contrary, skipper," said Roger, "I'd like the opportunity of keeping an eye on him."

Strong thought a moment. "Not a bad idea, Roger," he said as he turned to Astro. "And I suppose you want to ride with Kit and his reactor?"

Astro grinned. "Yes, sir. If I may."

"All right. Tom, I guess that means you ride with Wild Bill Sticoon."

"That's all right with me, sir," the young cadet said excitedly. "This is something I'll be able to tell my grandchildren—riding with the hottest spaceman in the hottest race through space."

* * * * *

Quent Miles spun around, his paralo-ray gun leveled. He saw a figure enter through the hatch, but when light revealed the face he relaxed.

"Oh, it's you!" he grumbled. "I thought you were setting things up back at

Atom City."

"You fumble-fisted, space-gassing jerk!" snarled Charley Brett. "Depend on you to get things messed up! That Barnard guy is all set to roll with his reactor!"

"Then why didn't Ross take care of him on the Moon?" asked Miles.

"He didn't land," replied Brett. "He kept going and made the whole trip without refueling that new unit of his. It's so good that he got back here still carrying half a tank of reactant."

"Well, you haven't any kick with me," asserted Miles. "I dumped that stuff in his tanks."

"Then how come he made it so fast?" growled Brett. "How come he made it at all?"

"How should I know?" snapped Quent. "Listen, Charley, lay off me. You might be able to order Ross around, but you don't scare me. And I don't think you have Ross fooled either."

"Never mind that now!" said Brett irritably. "We've got to line things up for the race. Listen! Ross left Luna City this morning for the hide-out. Here's what I want you to do. After you blast off—" Brett's voice dropped to a whisper and Quent's eyes opened with understanding, and then his rugged features broke out into a grin as Brett continued talking.

Finally Brett straightened up. "I'm going on out to Titan now to see if things are O.K. You got everything clear?"

"Everything's clear," said Quent. "And you know something, Charley? You have a nasty way about you, but you certainly know how to figure the angles. This is perfect. We can't miss."

"I love you too, sweetheart," said Brett sourly. He turned and hurried out of the ship. Just before he stepped on the slidewalk that would take him to the monorail station, he saw the three members of the *Polaris* unit leaving Kit Barnard's installation. He grinned and made a mocking salute to them in the darkness.

"So long suckers!" he called softly.

CHAPTER 7

"What!"

Quent Miles looked at Strong and then back at Roger. "You mean this jerk's going to ride with me?"

Roger Manning squared his shoulders and stuck out his chin. "Let's make the most of this, Miles," he said. "I don't like it any more than you do. I wouldn't like to be watched, either, if I had just crawled out from under a rock."

Strong suppressed a grin and then turned back to Quent. "That's the way it is, Miles. Commander Walters' orders. There's nothing that can be done now. Cadets Manning, Corbett, and Astro have been given these assignments because they have worked so closely on the race project, and, I might add, you couldn't ask for a better astrogator should you get into trouble."

"The day I'll ask for help from a kid still wet behind the ears is the day I'll stop flying," snarled Miles.

Strong shrugged. "You either consent to the regulations, or disqualify yourself from the race."

The spaceman's face turned a dusky red under his swarthy complexion. "All right, all right! If that's the way it is, that's the way we'll play it. But I'm warning you, Manning, stay away from me."

Strong glanced at his wrist chronograph. "You have five minutes before the blast-off, stand by." He shook hands with Roger. "Good luck, Roger, and be careful. And remember, Captain Miles has already proved himself a crackerjack spaceman. Don't interfere with him."

"Yes, sir," said Roger.

"Good luck, Miles," said Strong and offered his hand. Quent ignored it.

"Thanks for nothing," he sneered. "I know how much you want me to have."

"The best man wins," snapped Strong. He turned on his heels and left the black ship.

Quent Miles and Roger faced each other. "All right, Manning," said Miles after he had closed the air lock, "take your station. And remember I'm skipper of this ship."

"So what?" said Roger. "I'm still the monitor—!" He turned and swaggered away.

Miles watched him go, a crooked smile twisting his lips. "Make the most of it, Manning," he muttered under his breath.

* * * * *

"You will make two stops for refueling on your trip," Captain Strong called over the loud-speakers, as well as into the intercom connecting the three ships. "First fuel stop will be on Deimos of Mars and the second will be at Ganymede. You are to chart a direct course to each of them. Should an emergency arise, you will call for assistance on the special teleceiver and audioceiver circuits open to you, numbers seventeen and eighty-three. You are to circle each fueling stop three times before making a touchdown, and make a final circle around Titan when you arrive.

"Stand by to raise ship! And spaceman's luck!"

Strong turned and flipped on the intercom to the control tower. "All ready up there?" he called.

"All set, sir," replied the enlisted spaceman.

"All right, give them their orbits and blast-off time."

There was a slight pause, and then the gruff voice of the tower operator was heard over the loud-speakers and in the ships. "All ships will blast off on orbit forty-one… raise ship at 18:51:35… stand by!"

There was a tense moment of silence while the seconds on the red hand of the astral chronometer slipped around the dial. Out on the field, the three ships were pointed toward the darkening afternoon skies. The first ship, nearest the tower, was Wild Bill Sticoon's ship, the *Space Lance*, painted a gleaming white. Strong could see Tom sitting beside the viewport, and across the distance that separated them, the Solar Guard officer could see the curly-haired cadet wave. He returned the greeting.

Next was the black ship with the red markings that had aroused so much comment. Strong searched the viewports for a sight of Roger but could not see him. Finally he looked over at Kit Barnard's red-painted *Good Company*. He knew Astro would be on the power deck, preferring to nurse the reactor than watch the blast-off.

And then Strong was conscious of the tower operator counting off the seconds. He would pick it up at ten minus. He gripped the intercom mike as Mike's voice droned in his ears.

"… fifteen, fourteen, thirteen, twelve, eleven, ten…"

"Stand by to raise ships!" bawled Strong. He watched the sweep hand on the chronometer. "Blast off, minus five, four, three, two, one—*zero!*"

There was really very little to see. The three ships left Earth in a giant upheaval of thunderous noise and blazing red exhaust flames. The roar of the crowds was lost in the explosions of the rockets. And the greatest race in space was underway.

Strong raced up to the control tower and stood in front of the radar scanner

to watch the course of the three vessels now blasting through the atmosphere. They were three white blips on the green surface of the glass scope, in perfect line, traveling at incredible speeds.

Strong turned to the enlisted spaceman. "Contact the ships and see if everything's all right," he ordered.

"Very well, sir," replied the spaceman, turning to the audioceiver microphone.

"Spaceport control to rocket ships *Space Lance*, *Space Knight*, and *Good Company*. Come in, please."

There was a crackling of static over the loud-speaker and then the calm voice of Tom filled the control tower. "This is Corbett on the *Space Lance*. Go ahead."

Strong took the microphone. "This is Captain Strong," he called. "How was your blast-off, Tom?"

"Smooth as silk, sir," replied the young cadet. "Wild Bill sends his greetings and says he'll take a three-inch steak instead of flowers when he wins."

"Tell him it's a deal." Strong laughed. "End transmission."

"See you on Titan, sir," said Tom. "End transmission."

Strong then spoke to Kit Barnard on the *Good Company*, but did not get a chance to speak to Astro. "He's down on the power deck, Steve," reported Kit. "He's watching that reactor as if it were a treasure chest."

"To him it *is*," said Strong. "Good luck, Kit."

"Incidentally," said Kit before signing off, "I heard that crack Wild Bill made about a steak. Better put *my* name on it!"

Strong then contacted Quent Miles' vessel. "Is Manning there, Miles?"

"Yeah, he's here. Dead asleep!" growled Miles. "I thought you said he was going to be a help."

Strong's face grew red. "Well, wake him up," he snapped.

"You come wake him up," said Miles, and then the speaker went dead.

"Control tower to *Space Knight!*" Strong called angrily. "Come in, Miles. Control tower to *Space Knight!*"

"Yeah. What do you want?" growled Miles over the vast distance of space that already separated the two men and that each second took them thousands of miles farther apart.

"I want to speak to Manning," demanded Strong. "And if you cut me off like that again, Miles, I'll have you before a Solar Guard court for violation of the space code, race or no race."

"I told you once," said Miles. "Manning is asleep. He sacked in right after we left the Academy. Now leave me alone, will you! I've got a race to win!"

"Very well, Miles," said Strong. "But for your sake, I hope Cadet Manning *is* asleep."

"End transmission," growled Miles, and again the speaker went dead.

"Trouble, Steve?"

Strong turned to see Commander Walters enter the control room.

"No, sir," said Strong. "I tried to contact Roger, but Quent Miles told me he's asleep."

"Asleep!" cried Walters. "But I thought you weren't going to put Manning with Miles."

"Astro wanted to go with Kit, sir. And Tom was anxious to go with Wild Bill Sticoon. Roger didn't seem to mind."

"Did Miles object?"

"Yes, sir. But I think he would object to anyone going with him."

"And he told you Roger is asleep?"

Strong nodded. Walters pushed past him to the intercom and took the microphone. "This is Commander Walters calling rocket ship *Space Knight*. Come in, *Space Knight*."

There was a flutter of static and then Quent Miles' voice again. There was a little more respect in his tone but his story was the same. Roger was sleeping.

Walters slammed the microphone down. "By the craters of Luna, this is the last time I'll take this nonsense from Manning!" He jerked around and stood facing the viewport. "I'm sorry, Steve, but there have been more reports from Titan. The situation is serious. I've had to start evacuation. And then to get this smart-alecky behavior out of Manning. Well, you know what I mean."

Strong nodded, now more concerned about the emergency on Mars. "Shall I blast off right away, sir?" he asked.

Walters nodded grimly. "Yes. And I'm going with you. I'll leave Major Connel in charge while I'm gone. I would prefer to have him go, but he's been working with Dr. Dale on some new idea about reinforcing the force field and I can't pull him off it. You and I will have to do what we can."

Strong turned to the tower operator and ordered the rocket cruiser *Polaris* readied for immediate space flight, concluding, "… and have a full complement of Space Marines aboard. And I want Warrant Officer Mike McKenny as squad leader."

"Have you forgotten, sir?" interjected the enlisted spaceman who was taking Strong's orders. "Warrant Officer McKenny cannot take acceleration."

"All right, get—" Strong hesitated. "Get me Jeff Marshall, Professor Sykes' assistant."

Walters nodded. "Good idea. Jeff can take care of any lab tests we may have to make and also knows how to handle men. As a matter of fact," Walters continued, "if Jeff does well on this assignment I might put him up for a commission in the Solar Guard. He did well on that last trip into deep space during that trouble on Roald."

"Yes, sir," said Strong. "And I'll gladly endorse it."

"Is that all, sir?" asked the enlisted man.

"That's it, spaceman!" said Strong. When the man didn't move right away, Walters and Strong looked at him. "Well, what is it?"

"Excuse me, sir," said the guardsman, a bright-faced youngster who had

failed to pass the rigid requirements for cadet training and so had entered the enlisted Solar Guard. "I heard what Captain Miles said about Cadet Manning being asleep and—" He hesitated.

"Well, what about it?" prompted Walters.

"Well, sir, I don't know if it means anything or not," replied the boy nervously. "But just before the ship blasted off, I saw Cadet Manning standing inside the air lock. He looked as if he wanted to get out. But you were counting the blast-off time, sir. And he disappeared a few seconds before you hit zero."

Strong looked at Walters. "Are you sure?" he asked the boy.

"I'm positive, sir. I know Cadet Manning well, and he looked as though he was scared."

Strong clenched his fists. "Asleep, huh?" he growled. "Get me the *Space Knight!*"

The boy returned to the audioceiver and began calling Miles, but there was no reply. After a few minutes Walters interrupted, "We can't waste any more time here, Steve. We've got to blast off!"

"Get hold of Corbett on the *Space Lance*," said Strong to the spaceman. "Tell him I said to get in touch with Manning on the *Space Knight*. Ask him to find out what's going on."

"Yes, sir."

"And then tell him to contact me on the *Polaris*. We're blasting off immediately."

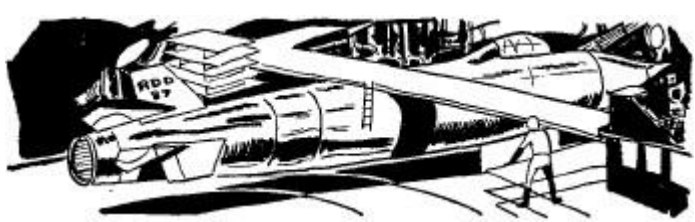
"Very well, sir."

Walters turned to Captain Strong. "What do you think it means, Steve?" he asked.

"I can't figure it, sir. Knowing Manning as I do, it could be a crazy stunt or it could be serious."

"It had better be serious," said Walters grimly, "for Manning's sake. One more slip, and I'm bouncing him right out of the Academy!"

The two officers left the control tower, leaving young Oliver Muffin alone, droning his monotonous call to Tom Corbett, somewhere between Earth and Mars—a call that was to be the young cadet's first warning of treachery in deep space!



CHAPTER 8

"All clear ahead, Bill!"

Tom Corbett stood at the radarscope and watched the thin white line sweep around the face of the instrument. "Nothing in space but us!" he announced.

The veteran spaceman grunted and grinned at the curly-haired cadet he had grown to like and respect in the short time they had been together. Not only did Tom know how to handle a ship, spelling the pilot for a few moments to have a walk around the control deck, but he was good company as well. More than once, Tom had surprised the Martian spaceman with his sober judgment of the minor decisions Sticoon had to make in flight.

"Why don't you try to contact Manning again, Tom?" Sticoon suggested. "He might be awake now."

Tom grinned, but in his heart he did not think it very funny. It was no joke that Captain Strong had called him to contact Roger. And Tom was worried. So far, he had not been able to reach the blond-haired cadet. He settled himself in front of the communicator and began calling the black ship again.

"Rocket ship *Space Lance* to rocket ship *Space Knight*! Come in!"

He waited. Nothing but static and silence greeted him.

"*Space Knight*, come in!"

He waited again as the sleek white ship plummeted deeper into space toward the first refueling stop on Deimos, one of the small twin moons of Mars. Still there was no acknowledging reply from the black ship that had streaked ahead of them after the blast-off.

"I'm going to try to contact Kit Barnard," said Tom. "Maybe he can pick up Miles' blip on his radar."

Tom made the necessary adjustment on the audioceiver and broadcast the call for the owner-pilot of the *Good Company*. Finally, after repeated tries, he heard a faint signal and recognized the voice of his unit mate Astro.

"What's the matter, Astro?" asked Tom. "I can hardly hear you."

"We're having trouble with the by-pass lines to the generators," replied Astro. "We've cut down to standard space speed, and Sid and Kit are making repairs now."

"Have you heard from Roger?" asked Tom across the vast abyss of space separating them. "I've been trying to contact the *Space Knight* for the last six hours and can't get any acknowledgment."

"Haven't seen it," replied Astro. "Lost contact with her a long time ago. She moved ahead at emergency space speed and we lost her on our radar an hour

after we blasted off."

"O.K., Astro. Hope Kit gets his wagon going again. We've got to make a race of this, or the people throughout the system will be disappointed." He turned and winked at Wild Bill.

"Listen, you curly-haired twerp!" roared Astro, and it seemed to Tom that he could hear his friend without the loud-speaker. "We're going to give you the hottest run of your lives when we get going!"

"O.K., Astro," said Tom. "If you can contact Roger, tell him to get in touch with Captain Strong right away. He's probably blasted off on the *Polaris* by now."

"Right, Tom. End transmission."

"End transmission."

Tom turned back to the skipper of the *Space Lance* with a feeling of despair. "I can't figure it out, Bill," he said. "Roger's pulled some boners before, real rocket blasters, but refusing to answer a call from Strong—" He shook his head.

The audioceiver suddenly crackled into life. "*Space Knight* to *Space Lance*, check in!" Quent Miles' voice was harsh and clear.

Tom jumped back to the microphone. "*Space Lance*, Cadet Corbett here!" he shouted eagerly. "Go ahead, *Space Knight!* Where's Manning?"

"Still asleep!" replied Miles. "Just wanted to tell you boys good-by. I'm not stopping to refuel at Deimos! I'm going right on through to Ganymede! End transmission!"

Only static filled the control deck of the *Space Lance* as Tom clutched the microphone and pleaded desperately for Quent Miles to answer him. "Come in, Miles! This is Corbett on the *Space Lance* to Quent Miles on the *Space Knight!* Come in, Miles! Come in!"

Bill Sticoon shook his head. "Miles must be nuts trying to get to Ganymede without refueling," he muttered. "Traveling at emergency space speed, he'll eat up his fuel before he gets one third of the way to Jupiter!"

Tom looked at Sticoon. "And Roger's with him."

Sticoon nodded grimly. "They'll wind up drifting around in space halfway between Mars and Jupiter. Finding them will be about as easy as looking for a pebble in the Martian desert."

* * * * *

"Have you found the *Space Lance* yet, Astro?" asked Kit Barnard, glancing over his shoulder at the giant Venusian, standing at the radarscope.

"I think I'm getting it now," said Astro. "Either that or I've picked up an asteroid."

"Not likely," said Kit. "We're too far from the belt to have anything that big drifting around without being charted. It must be Sticoon."

"Boy!" chuckled Astro. "This reactor really packs a load of power!"

"How are we doing on fuel, Sid?" Kit called into the intercom.

"We lost a lot trying to prime the pumps," replied the young crew chief. "We have to touch down on Deimos and refuel."

"That's all right," replied Kit with a smile. "We're gaining on Sticoon fast. We should make Deimos about the same time. I wonder where Quent Miles is by now."

"Probably wishing he had stopped for fuel!" interjected Astro with a sour look on his face.

"See if you can pick up Sticoon on the audioceiver, Astro," said Kit. "Ask him for an estimated time of arrival on Deimos. One of us will have to come in first."

Astro flipped the switch on the panel and began his call "*Good Company* to *Space Lance*, come in!"

"Right here, Astro," replied Tom immediately. "Boy, you certainly are burning up space! What have you got in your fuel tanks? Light speed?"

"Just a little thing we whipped up," said Astro with a grin. "What is your ETA on Deimos, Tom?"

"Less than five minutes. Four minutes and thirty seconds, to be exact. Think you can beat that?"

"If we can't beat it, we can equal it!" said Astro. "See you on the Martian moon, buddy! End transmission!"

Steadily, the *Good Company* rocketed through space, eating up the miles and gaining on the *Space Lance*. Both ships now made contact with the control tower on Deimos and received landing instructions.

"*Space Lance* will touch down on Ramp Three, *Good Company* on Ramp Six," crackled the voice of the Deimos tower operator, "and don't forget your approach orbits!"

"Have you heard from the *Space Knight?*" called Tom.

"Sorry, *Space Lance*," came the reply, "there has been no contact with *Space Knight*."

Tom began to feel the fingers of fear creeping up and down his spine. Quent Miles had carried out his plan of going on to Ganymede without refueling, threatening not only his own life, but Roger's as well.

Sticoon completed the three circling passes around Deimos and shouted to Tom over his shoulder. "Stand by, Corbett. We're ready to go in!"

Tom strapped himself into his acceleration chair and, watching the atmospheric altimeter, a delicate instrument that recorded their height above the surface of a heavenly body, began to call off the indicated figures.

"Five thousand feet, four, three—dropping too fast—compensate for lesser gravity—two thousand, one, five hundred, two hundred—" Tom braced himself and seconds later felt the impact of the ship settling stern first on the

concrete ramp. "Touchdown," he sang out in a clear voice.

While Sticoon secured the control deck, closing the many switches and circuits on the master panel, Tom opened the air lock. Almost immediately, special-trained crews swarmed into the ship to refuel her and prepare her for the next lap of the race. Tom and Sticoon stepped out onto the spaceport of the tiny moon of Mars and gazed up at the red planet that loomed large over the horizon. As a transfer point for the great passenger liners that rocketed between Venusport, Atom City, and Marsopolis, the refueling station at Deimos was well staffed and expertly manned.

Standing at the air lock, Tom and Sticoon heard the blasting roar of the *Good Company* coming down in a fast, expert touchdown, and they hurried across the spaceport to greet their rivals.

When the air lock opened, Tom immediately began to kid Astro and Sid, while Sticoon and Kit Barnard compared flight notes. A Universal Stereo reporter rushed up with a small portable camera and conducted an interview that was to be telecast back to Earth. Both spacemen were reluctant to voice any predictions of the outcome of the race, but Tom noticed that Kit was smiling and seemed in good spirits. Tom, with all his worries about Roger, could not help but feel happy that the independent spaceman was proving his reactor.

A man in the uniform of a Solar Guard major appeared. He introduced himself as an official monitor of the race, appointed by Commander Walters, and asked them for a report.

"Captain Sticoon has followed all regulations, sir," said Tom.

"And Captain Barnard, Cadet Astro?" asked the officer.

"Same thing, sir," replied Astro. "Captain Barnard has followed the rules of the race exactly."

"Thank you," replied the officer and started to turn away.

"Any word from the *Space Knight*, sir?" Tom asked quickly.

"Nothing, Corbett," the officer replied. "We received the same message that Captain Miles would attempt to go on through to Ganymede without stopping here at Deimos for refueling."

"And you've heard nothing from him since, sir?" asked Astro.

"Nothing, why?" The officer looked at both of the boys sharply. "Anything wrong?"

"No, sir," said Tom. "It's just that Cadet Roger Manning is monitor on the *Space Knight* and we haven't been able to talk to him since we blasted off from Space Academy."

"I wouldn't worry about it if I were you, Cadet Corbett," snapped the major. "I've heard of Cadet Manning's reluctance to stick to regulations. I suspect you will be hearing from him soon enough, when the ship runs out of fuel and starts drifting around in the asteroid belt. Those individualists always scream for help when they get in trouble."

"Yes, sir," said Tom stiffly.

"I already have a squadron of ships standing by to go to their assistance when they do send out a distress alert."

"Yes, sir," said Tom. "Will that be all, sir? Cadet Astro and I would like to have a bite to eat before we blast off again."

"Yes, that will be all, Corbett. Don't wander off too far." The major turned and walked toward the ships without another word.

"Wonder what's eating him?" said Tom.

"Never mind," said Astro. "Come on. Let's grab a bite while we have the chance."

They headed for the restaurant in the control building of the spaceport, but were recognized by the reporter of the stereo company who badgered them into stepping before the camera and making statements about the race. He tried to get the boys to commit themselves as to who they hoped would win, and to offer an opinion on what had happened to the *Space Knight*. But neither Tom nor Astro said anything but that the best man would win. There were the usual eager spectators too, thousands from the large cities on Mars who had taken the ferry rocket up to the spaceport to see the ships come in for refueling. As soon as Tom and Astro could tear away from the stereo reporter, they were mobbed by the onlookers who clamored for autographs. Finally the two cadets had to forego their meal and return to their respective ships to escape the wild demonstration.

Seated in his acceleration chair on the control deck of the *Space Lance*, waiting for Bill Sticoon to come aboard, Tom found his concern for Roger overriding his enthusiasm for the race. When Sticoon appeared and began to prepare the ship for blast-off, Tom went through the motions mechanically. The *Space Lance* was scheduled to leave first, with Kit Barnard following at the exact time interval of their arrivals. The Deimos tower operator's voice droned over the loud-speaker on the control deck of the *Space Lance* "… minus five, four, three, two, one"—then the breath-taking pause before the climactic—"*zero!*"

The ship shot spaceward, rockets roaring loudly in the thin atmosphere of the small satellite. The next moment, before the horrified eyes of thousands of people, the *Space Lance* exploded a few miles above the ground.

Astro stood frozen at the viewport of the *Good Company*, his eyes glazed with shock as he watched the Martian ship disintegrate far above him. All he could do was mutter brokenly, "Tom… Tom…"

CHAPTER 9

"Blast off!"

Without any preliminaries, Kit Barnard's order sent the *Good Company* hurtling spaceward. Astro had just enough time to throw himself into an acceleration chair before the ship shot away from the Deimos spaceport toward the wreckage of the *Space Lance*.

"Braking rockets!" roared Kit. "Hit them hard, Sid."

The ship bucked under the force of the counter-acceleration, and the veteran spaceman fought to keep her under control. He snapped out another order. "Cut all rockets!"

The ship was suddenly quiet, hanging motionless in space in the middle of the still-twisting wreckage. The huge bank of atomic motors, the largest single unit on the ship, had already begun to swing around the small moon Deimos in an orbit, while other shattered remains of the once sleek ship began a slow circle around the motors themselves.

Astro was struggling into a space suit when Sid and Kit joined him in the air lock. Quickly the three spacemen clamped their space helmets closed and adjusted the oxygen nozzles. Then, after testing their suit intercoms, they closed the inner-portal air lock, reduced the air pressure, and opened the thick pluglike outer portal. They stared out at the gruesome spectacle of torn hull plates, twisted spars, and broken pieces of equipment floating gently in the velvet space, outlined against the reddish hue of the planet Mars.

"Astro! Kit!" shouted Sid through the suit intercom. "Look, there's Sticoon! Over there near that tube." Following Sid's pointing finger, Astro and Kit turned toward an exhaust tube that had been ripped in half by the explosion. The Martian spaceman's body floated next to it, limp and broken. Astro shuddered. If Sticoon was dead, then there was little hope for Tom. The big Venusian fought back tears.

Maneuvering themselves away from the ship with the aid of the small jet packs strapped to their shoulders, they reached the dead spaceman. Sid carried him back to the ship while Astro and Kit remained to search the wreckage for Tom.

By now, three small jet boats and two rocket scouts had blasted off from Deimos, bringing emergency rescue equipment. More than a dozen men poured out of the ships and joined in the search. The work was carried on in silence. No one spoke.

Astro and Kit worked side by side, pushing their way gently through the

twisting mass that was once a proud spaceship, to the heart of the spiraling wreckage, down toward the bank of atomic motors that was attracting all the lesser pieces. Suddenly Astro paled. He gripped the veteran's arm and gestured toward a large section of the ship on the other side of the motors that they had not seen before.

"By the stars," Kit gasped, "it's the air lock! All in one piece!"

"If Tom managed to get in there, or if he was in there when the ship exploded, maybe he has a chance."

"You're right, Astro," said Kit hopefully.

"But we can't open it out here," said Astro. "If Tom is inside, we have to take it down to Deimos. If we open it here, and he doesn't have a space suit on, he'd suffocate."

"He'd freeze solid before that," said Kit, not mentioning the possibility that Tom might very well be frozen already, since the ship's heating units had been torn away from the air lock.

Quickly Astro hailed the members of the emergency crews that had rocketed up from Deimos and told them of the possibility that Tom was inside the chamber. They all agreed, since they had failed to find the cadet anywhere.

Kit and Astro immediately took charge of getting the bulky boxlike chamber back to Deimos where it could be opened safely. Two of the jet boats were jockeyed into position on either side of the chamber and several lengths of cable were stretched between them, forming a cradle for the chamber. Since the jet boats were equipped with foldaway wings, which, when extended, would enable them to fly at slower speed through atmosphere, they hoped to make a glider landing at the Deimos spaceport.

Astro would not let anyone handle the boats but Kit and himself, and only by threat of physical violence was he able to keep the regular pilots out of the control chairs on the speedy little ships. He might suffer for it later when the officers reported his actions, but the big Venusian was beyond caring. If Tom was not safe inside the vacuum chamber, he felt there wasn't much use in being a cadet any longer. Fleetingly he thought of Roger, who didn't stand a chance of reaching Ganymede on a single solo hop from Earth in a ship the size of the *Space Knight*. The *Polaris* unit seemed doomed.

With Kit Barnard in one jet boat, Astro strapped himself into the control chair of the other, and intercoms on, they gently fed power into their ships. Coordinating perfectly in their maneuvers, they headed back to the spaceport with their strange cargo.

Slowly and gently, Kit and Astro circled lower and lower until the two jet boats were directly over the Deimos spaceport. They circled wide and shut off power together, coming down in a long, easy glide. Keeping the cables taut between them, so the chamber wouldn't touch the concrete strip, the two spacemen made perfect landings, coming to a stop directly in front of the control tower. Astro was out of his ship in a flash and almost immediately Kit

was beside him. They took no notice of the stereo reporter who was focusing his camera on their efforts to force open the portal on the chamber. Nor did they notice the immense crowd, standing behind police lines, watching and waiting in silence.

"A cutting torch!" bellowed Astro to the emergency crew below. "Get me a cutting torch."

In an instant the torch was handed to him, and ripping the space gloves off his hands, the big cadet began cutting into the tough metal side of the chamber.

The seconds ticked into minutes. The crowds did not move, and only the low comments of the stereo reporter talking over an interplanetary network could be heard above the hiss of the torch as Astro bent to his task. A half hour passed. Astro didn't move or turn away from the blinding light of the torch as he cut into the section of the chamber where the portal locks would be. He did not notice that the *Good Company* and the emergency fleet had returned to the spaceport, nor that Sid was now beside him with Kit.

An hour passed. It seemed to the big cadet that the metal he was cutting, alloyed to protect spacemen against the dangers of the void, was now threatening to cost Tom's life, if indeed he still survived. No one could live long under such conditions unless they had a fresh supply of oxygen. Kit tried to take the torch away from Astro, but the giant Venusian would not let him have it. Again and again, the tanks of fuel supplying the torch were emptied and quickly replaced with fresh ones.

There was something awe-inspiring about the big cadet as he crouched over the torch, its white-hot flame reflected in his grim features. Everyone around him watched in silent fascination, aware that this was a rare exhibition of devotion toward a comrade. They all were certain that Astro would reach Tom —or die in the attempt.

* * * * *

"Touchdown!" Captain Strong called into the ship's intercom. "Secure stations."

The rocket cruiser *Polaris* had just settled on the blast-stained concrete of the Titan spaceport after a blazing flight nonstop from Earth. A Solar Guard cruiser, the most powerful class of spaceship in the Solar Alliance, the *Polaris* was also equipped with hyperdrive, a well-guarded secret method of propulsion, enabling Solar Guard ships to travel through space faster than any other craft known. Many commercial shipping companies, including those entered in the race to Titan, had pleaded for the use of hyperdrive on their ships but were summarily refused. It was one of the strongest weapons in the

entire Solar Alliance.

As Commander Walters released the straps holding him securely in his acceleration chair and stepped up beside Strong, the Solar Guard captain gestured toward the teleceiver screen on the bulkhead.

"We're being met by the local officials, sir," he said.

"Ummm," was the commander's laconic reply as he studied the screen. "There's Captain Howard."

"He doesn't look any too happy, sir," commented Strong.

"How would you feel if you had just spent seven years building up the mine operations here on Titan and then have something like this happen to you?"

Strong shook his head. "You're right, sir. I forgot that Howard asked for this duty."

"It's strange how a man will take to a place," mused Walters. "The first time he returned to the Academy, after a tour of duty here on Titan, he looked like a man who had just fallen in love." Walters chuckled. "And in a way I guess he had. He put in for immediate permanent duty here and went back to school to learn all about the mining operations. He, more than anyone else in the Solar Guard, is responsible for our success here."

"Well, are you ready to leave the ship, sir?" asked Strong.

"Yes," replied the commander, but he continued to stare at the teleceiver screen. Strong waited respectfully and finally Walters turned back to him, shaking his head. "The spaceport looks pretty deserted," was his only comment.

Strong had already noticed the desolate appearance of the ordinarily buzzing spaceport and it troubled him more than he would show. He knew that unless the defect in the force fields was corrected soon, the outer-space colony would have to be abandoned to the deadly methane ammonia atmosphere. And to Strong, who had seen the dead satellite before the Solar Guard had discovered crystal there, it was like seeing an old friend sick with a deadly disease. In addition, the hundreds of thousands of colonists would have to be relocated if the force fields could not be repaired and the effect on the economy of the whole Solar Alliance would be disastrous.

Walters and Strong were met at the air lock by Captain Howard. "I'm awfully glad to see you, sir," he said, coming to attention and saluting smartly. "Hello, Steve. Welcome to Titan."

"Glad to be here, Joe," said Strong.

"We came out as soon as we received your report that you had started evacuation," said Walters. "Have you discovered anything new?"

Howard shook his head. "Not a thing, Commander," he replied. "We've done just about everything but take the force-field projectors apart, but so far we haven't found a thing wrong."

"Any word on the race, Joe?" asked Strong.

Howard looked surprised. "By the stars, I almost forgot. One of the ships is trying to make it to Ganymede without stopping at Deimos for refueling. And

another blew up."

Strong gasped. "Which one?"

"*Space Lance*," said Howard. "Exploded over Deimos right after blast-off. *Knight* is the one that's trying the long solo hop. Haven't received any word from him yet."

"But what about the crew of the *Space Lance*?" demanded Strong with a glance at Walters.

"The pilot, Sticoon, was killed, and they haven't found Cadet Corbett yet." And then understanding flashed in Howard's eyes. "Say, that's one of the boys in your unit, isn't it, Steve?" he asked.

"Yes," said Strong grimly. He turned to Walters. "Have I your permission to contact Deimos for the latest details, sir?"

"Of course, Steve. Go ahead."

Strong turned quickly and climbed into a nearby jet boat. The enlisted spaceman at the controls sent the tiny vessel skimming across the broad expanse of the spaceport toward the control tower.

Walters and Howard watched him leave. "I hope nothing has happened to that boy," said Walters. "Corbett is one of the finest cadets we have."

"I'm afraid it doesn't look too good, sir," Howard answered.

"Well, what about the other ship, *Space Knight?*" asked Walters. "Cadet Manning is on that one. Any report on where they are?"

"Nothing, sir," replied Howard. "We just heard that he was by-passing Deimos and going on right through to Ganymede, hoping to get a jump on the other two."

"Did Cadet Manning make that report?" asked Walters.

"No, sir. It was the pilot. Quent Miles. There was no mention of Cadet Manning, sir."

Walters shook his head. "Certainly is strange," he mused aloud. Then he barked, in his usual brusque manner, "Well, we've got this problem here to worry about now. All mining operations have stopped, I suppose?"

"Yes, sir. The men won't work unless they have a guarantee that their wives and children are safe."

"Can't blame them," said Walters, surveying the quiet spaceport.

The two Solar Guard officers climbed into another waiting jet boat and shot away from the *Polaris* toward the tower.

Inside the shimmering crystal control tower, Steve Strong paced up and down behind the enlisted spaceman trying to contact the Deimos spaceport across the millions of miles of space.

"This is Titan spaceport calling Deimos spaceport! Come in, Deimos spaceport."

There was a flood of static, and then, very faintly, the voice of the tower operator on Deimos answered. "This is Deimos spaceport. Go ahead, Titan."

"Transmitting request for information by Captain Steve Strong of the Solar Guard," the Titan operator called into the microphone. "Information

concerning explosion of rocket ship *Space Lance*. Please give details on survivors."

There was a momentary pause and the loud-speaker crackled with static. The voice of the Deimos operator broke through. "Captain Sticoon dead. Cadet Corbett believed trapped in air-lock chamber. They have just cut through the chamber. It will be a few minutes before I can give you any further information."

"Very well, Deimos. I will hold this channel open."

Walters and Howard entered the room. "Any word, Strong?" asked the commander. Strong shook his head.

The loud-speaker over the control panel crackled into life again. "Ganymede station to Titan spaceport! Come in, Titan!"

The three Solar Guard officers looked at each other in surprise as the Titan operator acknowledged the call. "This is Titan. Go ahead, Ganymede."

"We have just received word that the rocket ship *Space Knight* is within five minutes of a touchdown this spaceport. Will probably blast off again immediately after refueling. Acknowledge, Titan!"

"I read you, Ganymede!" replied the Titan operator.

"What is your estimated time of arrival at Titan?"

The Ganymede operator was silent a moment, then announced a time that made Strong and Walters blink in amazement. "It is based on his speed from Earth to this point, Titan."

"Very well, Ganymede. End transmission," said the Titan man, closing his key.

Captain Howard stared at Strong and Walters in amazement. "I can't believe it." Strong shook his head. "It's fantastic!"

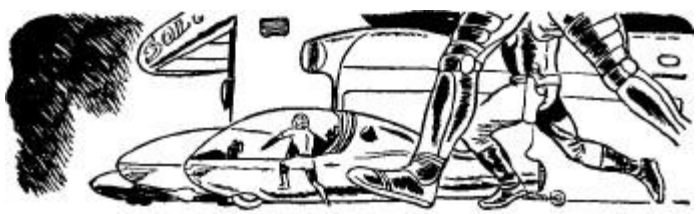
"I know it is, gentlemen," said a voice in back of them. "But nevertheless the Ganymede station confirms it."

Strong, Walters, and Howard spun around to look into the smiling face of Charley Brett.

Before anyone could say anything, the voice of the Deimos operator broke the stunned silence. "Deimos to Titan, I have your information now. Are you ready, Titan?"

"Go ahead, Deimos," said the Titan man.

And then, as Strong held his breath, the metallic voice from the loud-speaker reported on the final result of the tragic explosion over Deimos.



CHAPTER 10

"… Chamber was cut open and Cadet Corbett was rushed to the spaceport's sick bay…"

As the metallic voice of the Deimos tower operator continued his report of the tragic crash of the *Space Lance*, Strong and Walters sighed with relief. At least Tom was not dead!

"He is still in a state of shock, but after a preliminary examination, the medical officer reports that he will recover. That is all the information I have at this time, Titan. End transmission." The loud-speaker was silent except for the continuous flow of static.

"By the stars," breathed Strong, "I'm sure glad to hear that."

Walters put his arm around the captain's shoulder. "I'm glad too, Steve. I know how you feel about those three boys."

"And that Astro," said Strong, beaming. "Wouldn't you know he'd be the one to rescue Tom." He paused and then continued thoughtfully, "You know, sir, with the exception of Manning, I'd be willing to recommend Solar Guard commissions for the unit right now."

Walters snorted. "Manning! By the stars, he could be the best astrogator in the universe, but—but he's so undisciplined."

"Excuse me, sir," the enlisted spaceman interrupted. "Here is a transcript of the report from Deimos if you care to have it."

"Thank you," said Walters, putting it into his pocket. "Well, Steve, I guess we'd better start to work here." He turned to the Titan senior officer who had been waiting respectfully.

"Ready, Captain Howard?"

"Yes, sir."

"Lead on, then," said Walters.

As the three officers turned to leave the control tower, they noticed Charley Brett sitting near the door. In the excitement of the news of Tom's narrow escape, they had forgotten the company owner was there.

Strong stopped and looked at him coldly. "What are you doing on Titan, Brett?"

"Came on ahead to welcome the winner," Brett replied easily, not even bothering to stand.

"Pretty confident your man will win, eh?"

"Most assuredly," said Brett with elaborate sarcasm. "I would never have entered a ship in the race if I didn't think I would win. Though, in all fairness, I think I should have received the contract to haul the crystal without this extra effort."

"What kind of reactant is Quent Miles using in that ship of yours?" asked Walters sharply.

Brett smiled. "The same as everyone else, Commander."

"What about your feeders?" asked Strong. "With ordinary reactant, and no new cooling units aboard your ship, you must have oversized feeders to make such fantastic speeds."

Brett shrugged and held out his hands in a gesture of innocence. "I don't even know myself, Captain Strong," he said blandly. "It's one reason why I have Quent Miles piloting for me. He has a few tricks that apparently are quite effective."

"I hope they are legitimate tricks, Mr. Brett," said Walters. "Let's go, Steve."

The three officers turned away and left Brett sitting there, smiling triumphantly.

"I think we'd better start from the beginning in our inspection of the screens, Captain Howard," said Walters, as the three officers left the control tower and walked across the spaceport. "First of all, I want a twenty-four-hour watch placed on all operational centers, pump houses, and generator plants. I cannot discount the idea of sabotage. Why anyone would want to wreck the screens is beyond me, but we cannot ignore the possibility."

"I already have men stationed at the main operational centers, sir," replied Howard. "Your Space Marines will help me cover the rest."

"Steve," said Walters, turning to the Solar Guard officer, "if this is a natural phenomenon—some new element in Titan's atmosphere breaking down the force screens—the problem is bad enough. But if this is caused by man—if it really is sabotage—we'll have a doubly hard time. We can find the reason eventually, if it is natural, but man can conceal his reasons. And until we find out the motives behind this we must count on the situation getting worse. I want you to pursue *that* line of investigation. Find out if anyone has a good reason to force the abandonment of Titan."

"It's a big order, sir," said Strong. "I'll do the best I can."

"That's good enough for me," replied the commander, nodding his satisfaction.

* * * * *

"Any word, sir?" asked Astro eagerly as the white-clad medical officer emerged from the room.

The man smiled. "Thanks to you, Cadet Astro," he replied, "your friend will be able to leave as soon as he gets his pants on."

"Yeow!" bawled Astro in his famous bull-like bellow. "Thanks, sir. Thanks

a million!" He turned and wrenched open the sick-bay door, almost splintering it in his enthusiasm. Tom was just sitting up on the side of the bed.

"Hiya, Astro!" called Tom with a weak grin. "The sawbones tells me I owe you a brand-new shiny credit piece for saving my life."

His enthusiasm at high pitch, Astro was nevertheless unable to do more than smile broadly at his unit mate. "Only reason I did it," he said.

"All right, here you are." Tom handed over a coin. "That's all I thought my chances were worth."

At that moment the Solar Guard major in command of the Deimos spaceport entered, followed by Kit Barnard and Sid. After greeting Tom with enthusiasm that matched Astro's, Kit and Sid stood to one side quietly and listened while Tom gave his preliminary report to the major who held a recorder microphone in front of him.

"Yeow!" bawled Astro. "Thanks, sir. Thanks a million!"

"I heard a terrific noise on the power deck as soon as we blasted off," Tom began. "And Captain Sticoon ordered me to go below and check on it. I saw the trouble right away. The lead baffles around the reactant chambers had become loose and the reactant was spilling out, starting to wildcat. I called

Bill over the intercom right away and he ordered me to get into a space suit and wait for him in the air lock. I heard him shut off the generators—but that's all. The reactant blew and I must've been knocked cold, because the next thing I remember was this big ugly face bending over me ordering me to wake up." Tom grinned at Astro.

"I see," mused the major aloud. "Now about the baffles. How could they have worked loose? Do you think the lock bolts gave way in the excessive heat due to the intense blast-off speed?"

"No, sir," said Tom firmly. "Those bolts were loosened. I distinctly remember seeing one of them fall to the deck as I walked in."

"Then you suspect that the ship was sabotaged?"

"That's not for me to say, sir," said Tom after a moment's hesitation. "In all my experience, I have never seen one of those bolts work loose of its own accord or because of heat or vibration on the power deck." He glanced at Astro, who was hunched forward, listening intently. "Have you, Astro?"

The big Venusian shook his head slowly. "Never," he said.

"Well, thank you, Corbett, that will be all for now," said the major and then turned to Kit. "I want to congratulate you, sir, on your sacrifice in going to the aid of the *Space Lance*."

"Wild Bill would have done the same thing for me," said Kit without emotion. "Do I have permission to continue the race now?"

The major was startled. "You mean you still want to go on?"

"Every cent I have is tied up in my ship and in this race, sir," said Kit. "I have my new reactor unit working properly now, and I believe that I still have a chance."

"But you've lost hours, man," protested the major.

"I can make them up, sir," said Kit. "Am I permitted to carry on?"

The major was flustered, but nodded his head. "By all means. Yes, indeed! And spaceman's luck to you."

"I'd like to make the trip with him if he'll have me, sir," said Tom, getting off the bed. "I'm all right. The doctor said so."

"But—but—but you need rest, Cadet Corbett," said the major. "No, I can't permit it."

Just at that moment the medical officer walked in.

"So far as I'm concerned," he said, looking at Tom, "he's a lot healthier than you are, sir. With all due respect, sir."

"Very well, then," shrugged the major. "Carry on! Do as you please!" Shaking his head in confusion, the major left the room.

"Well," said Kit Barnard, stepping forward, a big smile on his face, "what are we waiting for?"

* * * * *

"Minus five, four, three, two, one—*zero!*"

The spaceship *Good Company* shot away from the small moon of Mars and thousands of eyes at the spaceport followed it into the heavens, watching its blazing track disappear into the depths of space. If sympathy and good wishes could decide the race to Titan, the spaceship *Good Company* was a certain winner.

Aboard the sleek craft, Tom Corbett relaxed after the tremendous blast-off acceleration and turned to look at the tense face of Kit Barnard who was seated in the pilot's chair.

"Why don't you get some sleep, Kit?" said Tom. "I can take this baby over. It's the least I can do for all you've done for *me*."

"Thanks, Tom, but I'll stay with it awhile longer," replied the veteran spaceman. "At least until we find out where the *Space Knight* is."

Tom suddenly remembered the trouble with Roger.

"Has there been any news of them at all?" he asked.

"The last thing we heard was that he was approaching Ganymede. And that was a few hours ago, when you were trapped in the air-lock chamber."

"Ganymede!" Tom was thunderstruck. "But—but—how did he do it?"

Kit shook his head. "I don't know, Tom, but he sure has some speed in that black ship of his."

"Ganymede!" Tom repeated in bewilderment. It was beyond belief. The *Polaris*, using hyperdrive, could scarcely have made the flight any faster. Tom felt his heart sinking. The hope that Kit Barnard could catch the black *Space Knight* was faint now.

"Shall I call Ganymede again and see if they have anything new?" Tom asked finally.

"Yes, do that, Tom," Kit replied.

The curly-haired cadet quickly climbed the ladder to the radar bridge and sat wearily in front of the teleceiver.

"Spaceship *Good Company* to Ganymede spaceport," he called. "Come in, Ganymede."

Seconds later, the voice of the Ganymede control operator crackled over the loud-speaker in reply. "Ganymede station to *Good Company*. Go ahead."

"Can you give me any information on the departure time of *Space Knight* from Ganymede?"

"She has not blasted off yet. She is having trouble in her after burners."

"How long do you estimate it will take for her to effect repairs and blast off?" asked Tom, a note of rising hope in his voice. While the black ship had made it to Ganymede under full power without refueling, the strain might have damaged her seriously. Tom waited patiently for the reply, drumming his fingers on the table in his excitement.

"Not more than sixteen hours, *Good Company*," the Ganymede operator

finally answered. "Where are you now?"

Tom quickly ascertained his position and relayed it to the tiny Jovian-moon station. "Space sector fourteen, chart B for baker." After the metallic voice had repeated the information, Tom asked for information on Roger Manning.

"No such person has reported to this office, Cadet Corbett," came the negative reply. "End transmission."

"End transmission," said Tom gloomily and slumped back into his chair. Something had happened to Roger, or he had completely blown his top. And in the light of past performances by the blond-haired radar expert, Tom could not decide which. Roger had threatened many times that if he should ever leave the Academy, he would do it quietly, without fanfare.

There was no better place to drop out of sight than on Ganymede, for it was here that the deep spacers, gigantic spaceships that hauled supplies to the colonies of Alpha Centauri, Tara, and Roald made their last stop. If Roger had finally made good his threat to leave the Academy, Ganymede was the logical place to do it.

But why?

CHAPTER 11

"Yeow!"

Astro's bull-like roar echoed through the *Good Company*. Tom and Kit jumped around in their seats to stare dumfounded at the half-stripped cadet climbing through the hatch into the power deck, followed by Sid. Sweating, his body streaked with grease, the belt of rocketman's tools swinging from his hips, Astro pounded the two spacemen on the back. "We did it!" he roared, turning to hug Sid who was equally grimy and naked to the waist.

"Did what?" demanded Kit.

"You know that by-pass feeder you said wouldn't hold a pressure of more than D-18 rate?" said Astro eagerly.

When Kit nodded, Astro roared triumphantly, "Well, it'll hold more than D-18 rate now!"

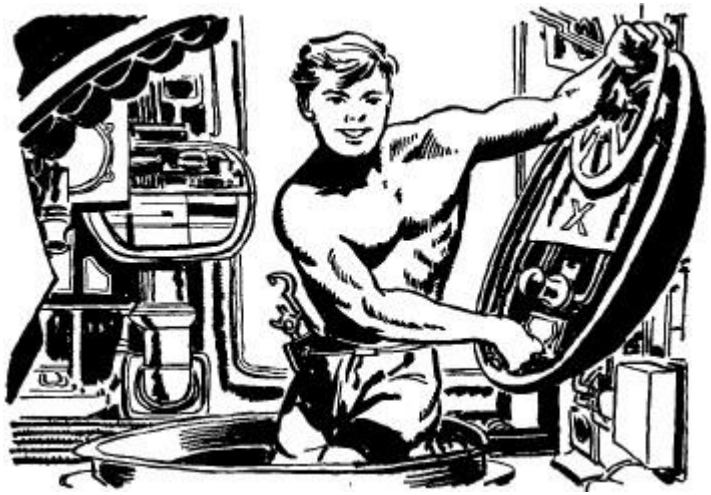
"What do you mean?" demanded Kit.

Astro's involved and detailed reply in engineering terms was almost gibberish to Tom, but he understood enough of the unit construction to sense that Astro had done something extraordinary.

"And he did it all himself, too," said Sid quietly. "I didn't do any more than hold the tools."

"But I still don't understand," protested Kit. "The by-pass won't take more than D-18."

"We built another one," said Astro proudly. "Since you were making a small unit, you naturally built a small by-pass feeder. We made a big one." Astro grinned. "I admit that it looks a little lopsided, with that tank joint on the side nearly twice as big as the whole cooling unit, but if you'll cut your motors and give me fifteen minutes to change that line, I'll give you a reactant feed at D-30 rate."



"D-D-30," stammered Kit. "You're space happy!" He glanced over at Sid. "Is that right, Sid?" he asked, almost hesitantly.

The youth nodded. "It'll work, Kit. And believe me, I didn't have a thing to do with it. It was his idea and I thought he was nuts too. But he can holler louder than I can and—well, he's bigger'n I am and—" Sid shrugged his shoulders. "He went and did it."

"I want to see that thing for myself!" exclaimed Kit, jumping out of his seat. "Take over for a while, Tom."

Tom slid under the controls of the sleek ship, and while Astro, Sid, and Kit went below to the power deck, he began to figure their speed at a D-30 rate. He used a pencil at first, scribbling on a piece of paper, but the answer he reached was so fabulous, he put the ship on automatic gyro control and climbed to the radar deck where he checked the figures on the electronic calculator. When the result was the same, he let out a whoop.

When he returned to the control deck again, Astro, Kit, and Sid were already working the master control panel, adjusting some of the controls to take the enormous increase in speed. Kit grinned up at Tom. "Here we go, Tom," he said. "This is going to be the fastest ride you've ever had next to hyperdrive."

"Then it really works?" yelled the cadet.

"It not only works, but from the looks of that thing, we'll use very little more fuel. So now it's our turn to by-pass a fuel stop! We're going right on through to Titan!"

* * * * *

"You're whistling into the wind, Barnard!" Quent Miles' voice was harsh and derisive as it crackled over the audioceiver. "You could never catch up with me in a hundred light years! This race is in the bag for yours truly!"

Across the vast distance of space that separated the two speeding ships, Tom, Astro, and Kit Barnard listened to Miles' bragging voice and smiled at each other. All Kit ever wanted was a fair chance, and now, thanks to Astro and Sid, he had better than a fair chance. With their added speed, Tom calculated that the two ships would arrive at the Titan spaceport at about the same time. Only scant minutes separated their estimated times of arrival.

"How much farther do you think that wagon of yours will hold out, Barnard?" continued Miles over the audioceiver. "You'll burn it up or shake it apart. This race is in the bag!"

"All right, Miles," interrupted Tom. "We'll do our talking at the Titan spaceport. Now let me talk to Roger."

"You mean, Manning?" asked Miles, after an almost imperceptible pause.

"Yes, I mean Manning!" snapped Tom.

"Can't oblige, Corbett," said Quent Miles. "Your pal took it on the lam back at Ganymede. He ran out on me. As far as I know, he's still there. Didn't you see him when you stopped for refueling?"

"We didn't stop," said Tom. "What do you mean, he got off at Ganymede? He's supposed to stay with you throughout the race."

"I gotta go now, Corbett," came Miles' abrupt reply. "I'm hittin' rough stuff here, a swarm of meteors. See you on Titan. Be down there to welcome you in."

"Wait! What about Roger?" Tom called frantically into the audioceiver, but Quent Miles did not answer. The young cadet slammed the microphone down on the table. "That blasted Roger!" he cried hotly. "When I get my hands on him, I'm going to—"

"Take it easy, Tom," said Astro, putting a hand on the cadet's shoulder. "You know how Roger is. Wait until he has a chance to explain before you blast him."

"I suppose you're right, Astro," replied Tom. "But why in the stars would he leave the ship?"

"Whatever he's done, I'm sure Roger has a good explanation," replied the big Venusian. But inwardly he couldn't help feeling that Roger, somehow, had gotten into another scrape which would, in the end, reflect on the whole unit. Neither Tom nor Astro cared much for their own individual reputations, but they were concerned about the record of the unit. Roger had managed to pull himself out of some narrow scrapes, but there was always the first time for everything. Leaving his post as monitor in the race was as serious as anything he had done so far.

"Heads up, Tom!" Kit called out. "Meteor storm in our course. We've got to

change our heading."

"Aye, aye, sir," replied the young cadet, pushing aside his concern over his unit mate and concentrating on routine flight operations.

On and on, the sleek ship plummeted through the black depths of space beyond Jupiter, heading for the planet Saturn and her magnificent rings of different colors, and to her largest satellite with its deadly methane ammonia gas atmosphere, the crystal-bearing moon, Titan.

* * * * *

"They are approaching the spaceport, sir," called the Titan control-tower operator, and Strong jumped to the radarscope to stare at the two blips on the screen. Only a mile separated them, with Quent Miles' *Space Knight* ahead.

"Five minutes to touchdown," reported the operator.

"Come on, Kit," muttered Strong through clenched teeth. "Pour it on, boy. Give her the gun!"

The two blips drew closer to the heart of the scope. First one and then the other shooting ahead for brief seconds as they began deceleration.

"You can see them outside, now, sir," said the operator, and Strong jumped to the door, stepping out on the observation platform that looked out over the spaceport. He searched the skies above him, and then, faintly, he could see the exhaust trails of the two ships as they streaked over the field, beginning their deceleration orbits around the satellite.

Behind him, Strong heard the voice of the tower operator ordering Ramp Four and Ramp Five cleared for the two ships, and the mobs of people on the spaceport surged back. Strong noted the irony of the situation. The people of Titan were not out to greet a hero of space, but were waiting for the next evacuation rocket ship.

The ramps were cleared and within minutes the two ships reappeared over the horizon, nosing upward over the spaceport in an arc, their braking rockets blasting loudly as they prepared to land.

Then, feeling that his heart would stop, Captain Strong saw Quent Miles' black ship touch the surface of the spaceport first. Kit Barnard had lost the race. By seconds to be sure, but he had lost the race.

A weak cheer arose from the crowds and then quickly died out. To them the race was futile and the prize empty. How could the winning company ship crystal, when soon, none would be mined?

Strong raced across the field and boarded the *Good Company* to find Kit, Tom, Astro, and Sid sitting glumly on the control deck. There was a quick smile of greeting on the two cadets' faces when they saw their unit commander, but their smiles died away. Abruptly Kit Barnard was on his feet

looking past Strong to someone entering the hatch behind him.

"Congratulations, Quent!" said Kit, extending his hand. "That was a great race."

"Thanks," replied Miles. "But I never figured it would end any other way. You put up a great fight, Barnard. Yes, sir! A great fight!" He turned to Captain Strong and chortled. "Good race, eh, Strong?"

The Solar Guard officer shook hands with the winner and then asked, "Where is Cadet Manning?"

"Say, I want to make a complaint about that!" exclaimed Miles. He looked at Tom and Astro. "It was bad enough to have to be bothered with these kids, but when they behave the way that kid Manning behaved, I've got a right to be sore!"

"When did Manning leave the ship?" asked Strong.

"As soon as we made touchdown on Ganymede. He left the ship after sleeping all the way out, made a couple of nasty cracks, and the last I saw of him, he was heading over toward the deep-space section of the spaceport."

"You're sure of that?" asked Strong.

Quent Miles sneered. "I just said that's what happened, didn't I?"

"Yes, that's what you said," Strong replied. "And I'll have to take your word for it until Manning can answer for himself."

"How did you manage to make it from Earth to Ganymede without refueling, Quent?" asked Kit slowly. "And what have you got in your ship to get that kind of speed?"

Miles' lips curled in a twisted grin. "That's my secret, spaceman," he said, turning away. "Well, I've got to report to my boss. Great race, Kit. Too bad there couldn't be more than one winner." He laughed and swaggered out of the ship.

"I'd like to brain that guy," growled Tom.

"All right, Corbett, Astro, pack your gear and report to the control tower for reassignment," snapped Strong. He turned and with a nod of sympathy to Kit left the control deck.

"Let's go, Astro," sighed Tom. "We'll see you later, Kit. You too, Sid. And —" They looked at each other, but there was nothing more that could be said. The race was finished.

When Tom and Astro had finished packing their gear and left the ship, Sid turned to Kit. "I'm going to take a look at the *Space Knight!*" he announced.

"Better not, Sid." Barnard shook his head. "Miles is a rough customer. He might not like visitors around his 'secret' on the power deck."

Sid's face was set. "I'm going," he repeated and ducked through the hatch.

His face showing his disappointment at having lost the race, Kit paced the deck for a moment and then he strode purposefully toward the hatch, calling:

"Hey! Wait, Sid. I'm coming with you."

In the control tower at the far end of the spaceport, Tom and Astro entered the station commander's office in time to overhear the last of Commander

Walters' orders to Captain Strong.

"… might as well give the boys a rest before we begin our investigations, Steve." He looked up as the door opened. "Oh, here they are now."

"Cadets Corbett and Astro reporting, sir." Tom and Astro saluted smartly.

"Stand easy, boys," said Walters, rising to face them. "I don't know how much you've heard of this emergency on Titan, but you can be briefed on details later. For the moment, all you have to know is that your assignment here is concerned with a detailed checking-out of the whole force-screen machinery. Take a twenty-four-hour rest and then report back here ready for the hardest work you'll ever do in your lives."

"Yes, sir," said Tom.

"Where is Manning? Didn't he think it necessary to report to me?" Walters looked at Strong. "Well, Steve? It's your unit?"

"It seems he got off the *Space Knight* at Ganymede, sir," replied Strong reluctantly. "Captain Miles said the last he saw of Manning he was walking toward the deep-space section of the spaceport."

Walters' eyes suddenly became very bright and hard. "He got off, did he? Well," he snapped, "this is just about the end of the line for Cadet Roger Manning!"

"I'm sure Roger has a good explanation, sir—" began Tom.

Walters glared at the cadet. "None of that, Corbett. Manning is a bad rocket and the sooner I get rid of him the better off the Academy and the *Polaris* unit will be. Now take your twenty-four-hours' leave and report back here ready to work."

"Yes, sir," replied Tom. He and Astro saluted and turned to leave the office but were stopped by the sudden appearance of Sid and Kit. Sid's face was aglow. Kit was scowling.

"You know what we found on the *Space Knight?*" exclaimed Sid, unable to hold back.

"What?" asked Tom.

"Almost a full tank of reactant!" replied the young engineer. "And the after burners showed about as much wear as if the ship had jumped from Earth to Venus."

"What's that, young man?" snapped Walters, stepping forward quickly. "What are you talking about?"

Kit Barnard faced the commander and began to explain.

"We were both curious about Quent Miles' ship, sir," he said. "We wondered what kind of equipment he had to get that kind of speed, so we went aboard and looked her over. She looks as if she just made a routine flight. Hardly any of her baffling has been eaten away and her motors are cooling fast, and I'd swear by the stars there isn't anything on that ship to give her the kind of speed she made out here."

"Hm-m! There's something funny about this," mused Walters.

Strong stepped forward quickly. "Would you like me to investigate, sir?" he

asked eagerly.

"Of course not," snapped Walters. "What's the matter with you? We've got a whole planet full of people about to lose their homes and you want to take time off to investigate pure speculation!"

"I'm sorry, sir." Strong's face flushed at the rebuke.

"Carry on! Work with Joe Howard."

"Yes, sir."

Strong saluted and started for the door. He passed Tom, Astro, Sid, and Kit without so much as a glance. His jaw was set like a rock.

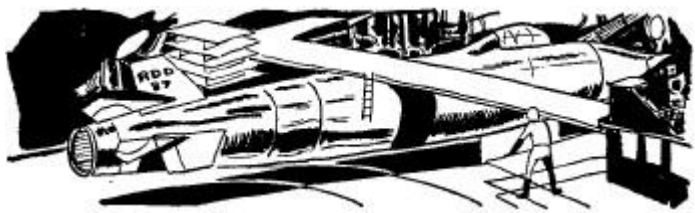
Tom Corbett shuffled uncomfortably, embarrassed at the rebuke Strong had just suffered from Walters. It was not like the commander to flare up so quickly. The situation on Titan must be extremely serious. He and Astro ducked out of the room quickly.

"Come on, Astro," muttered the young cadet. "Let's get a bite to eat. I'm starved."

"I was," said the giant Venusian. "But I lost my appetite."

"Boy, do I wish I had Roger here now!"

"Yeah, me too!"



CHAPTER 12

Olympia, the largest colony on Titan, was gripped by a wave of fear. The broad streets were empty; the shops and stores were deserted; and the population waited in line at the spaceport, with their most valuable belongings, for their turn to leave the threatened settlement. Slowly the satellite of Saturn was dying, and through the methane ammonia atmosphere, the glittering rings of the mother planet shone down on her death struggle.

Tom Corbett and Astro walked through the streets silently, overcome by the desolation around them. Many parts of the city were completely abandoned, and the few remaining citizens wore cumbersome oxygen masks as the deadly atmosphere of gas seeped through the force field to reach the ground surface of the satellite.

As the two cadets continued their dismal tour, they could only find one small restaurant open, a self-service food center that required no help. They were the only customers. During the meal they hardly talked, as they watched the slow procession of people outside, heading for the spaceport.

When the two cadets left the restaurant, a jet car suddenly blasted to a stop beside them and a master sergeant, dressed in the scarlet red of the enlisted Solar Guard, jumped out to face them.

"All persons are required to wear oxygen masks, Cadets," the sergeant announced, handing over two masks. "And I would suggest that you leave this section of the city as quickly as possible. The screens are leaking badly again. We may have to close off this section too."

Tom and Astro took the masks but did not put them on.

"Thanks, Sergeant," said Tom. "But we'll probably be around here for some time. We're on special duty with Commander Walters and Captain Strong."

At the mention of Strong's name, the sergeant started, looked at the boys closely, and then smiled. "Say, aren't you Corbett and Astro?"

"That's right," acknowledged Tom.

"Well, don't you remember me?" asked the sergeant.

Tom looked at him closely and then smiled in sudden recognition. "Morgan! Phil Morgan!" he cried.

"Of course," chimed in Astro.

"Sure," said the sergeant. "We went through our first test together at the Academy and I washed out."

"And you became an enlisted man!" exclaimed Tom. "Man, you're a real space buster!"

"I figured if I couldn't get into space one way, I'd do it another," said Morgan proudly. "A lot of times I wished I was still a cadet with you, but now I don't think I'd change it for anything in the world."

"I can believe that," said Tom, smiling. "And a master sergeant at that! McKenny told us once it took a man nearly fifteen years to get top rating. It must really be a labor of love for you to have made it this quickly." He stuck out his hand. "Congratulations, Morgan."

They shook hands. "Well, I've got to get rolling," said Morgan. "I sure hope you fellows find out what's cooking here. I've got a lot of friends here and they stand to lose everything they own if Titan is abandoned."

"With Captain Strong on the job, you can bet we'll find out the trouble," declared Astro.

Morgan smiled. "See you around," he said, and jumped back into the jet car. A second later it was roaring down the street to the western part of the city.

"Boy, sure makes you feel good to know that a guy loves space so much that he would fight his way to the top of the enlisted guard as Morgan did!" said Tom.

Suddenly Astro jerked Tom by the sleeve and pulled him back into the restaurant to crouch behind the door.

"Hey, what's the matter with you?" growled Tom.

"Sh-h-h!" hissed Astro and pointed across the street. "Look!"

Tom poked his head around the corner of the doorway and quickly jerked it back again. Quent Miles was hurrying down the street.

"Wonder what he's doing around here?" whispered Astro, watching the black-clad spaceman pass directly opposite them and continue down the street, seemingly unaware that he was being watched.

"He must be heading for the evacuated section," said Tom.

"How do you figure that?" asked Astro, as they peered cautiously around the edge of the doorway.

"He's wearing his oxygen mask."

"Come on!" said Astro. "Let's find out what that heel is up to."

Hugging the buildings, the two cadets walked down the street, following Miles. There was a puzzled frown on Astro's face as he stared at the spaceman, a hundred feet away. "I swear, Tom," he complained, "I'm about to bust a rocket. Every time I see that guy, I think I know him, but when I try to pin it down, it slips away from me."

"Watch it!" cried Tom. "He's stopping."

The boys ducked behind a deserted jet car as Quent Miles suddenly spun around to stare suspiciously back down the street.

"I don't know if he saw us or not," whispered Tom.

"With that oxygen mask," replied the big cadet, "maybe he can't see very well."

"He's going on," replied Tom. "Come on. We've got to find out what he's up to. He wouldn't be concerned about someone following him if he weren't trying to hide something."

They slipped around the jet car and stepped back on the sidewalk. Ahead of them, Quent Miles was walking quickly, reading all the street signs. Suddenly he turned down a side street, and the two cadets raced after him.

They were in the outskirts of the city now. Great areas were covered with rolling grass fields where the citizens of Titan spent their leisure hours playing ball and picnicking, and it was easy for the cadets to follow the black-suited spaceman. They had to put on their oxygen masks as the deadly fumes of the methane ammonia atmosphere began to swirl around them. They were near the outer limits of the atmosphere screen's effectiveness.

"I think he's going into that building up ahead, Astro," said Tom, his voice

distorted to a low metallic hiss by the miniature amplifier in the face of the mask.

Astro nodded and they ducked into a gully as Quent Miles turned once again and glanced down the street.

"Wonder what's in that building?" mused Tom.

"One way to find out," said Astro. "Come on. He's moving again."

The gas began to thicken now, and the two cadets found it difficult to see more than a few feet ahead as they moved cautiously through the swirling death around them. After what seemed like an hour, but was actually hardly more than a few minutes, they found the building Miles had entered.

"I'd give two weeks' leave for a ray gun now," said Tom.

"Want me to try the door?" asked Astro.

"Go ahead. We can't learn anything standing out here."

Astro put his hand on the circular latch and twisted it slowly. The door slid back on rollers, exposing a dark interior. The two boys slipped inside.

"Better close the door, Astro," said Tom. "The ammonia doesn't seem to be so thick in here."

Astro twisted the latch on the inner side and the heavy door rolled back into place. They turned slowly and saw a room that was dark except for a single light gleaming weakly through the haze of the gas. When their eyes became adjusted to the semidarkness, they moved, searching for another door in the huge room.

"Are you sure this is the right place?" asked Astro.

"I can't be positive," said Tom. "The stuff outside was too thick—" He stopped, touched Astro on the arm, and pointed to his left. There was the sound of a door sliding back and light filtered into the murky room. Quent Miles stood framed in the doorway, the unmistakable outline of a paralo-ray gun in his right hand.

"Drop to the floor," hissed Tom.

The two cadets dropped lightly to the floor and lay face down, while Quent Miles walked toward them fanning the gun around menacingly. Then, as he was about to step on Astro's hand, he turned and walked quickly back to the door. "You must be nuts, Charley," the two cadets heard him say. "There's nobody here."

The door rolled closed and the light was cut off. Tom and Astro rose and quietly made their way toward the door. They stopped, leaned against the door, and tried to hear what was going on inside, but were unable to distinguish more than a vague mumble of voices, because of their masks and the thickness of the door. Suddenly, however, they were conscious of footsteps approaching from the other side.

There was no time to hide. Each boy flattened himself against the wall on opposite sides of the door and held his breath as the door opened slowly.

* * * * *

"There can be no doubt about it, Steve," said Commander Walters to the young captain. "What we need are more powerful pumping stations for oxygen *and* additional generators for supplying power to the force field."

"How do you figure that, sir?" asked Strong.

"It's simply this," replied Walters. "The population here has nearly tripled in the past two years. The force-field screens were set up originally to accommodate only a minimum number of miners and their families. With the heavy demand for crystal, and therefore, more civilians to dig it out, the force field has been overloaded."

"But I still don't see how, sir," Strong protested.

"The more people, the more oxygen needed to keep them alive, right?"

Strong nodded.

"The force screens hold back the methane ammonia gas and create a vacuum into which we pump oxygen, right?"

Again Strong nodded.

"Now we have a demand for more and more oxygen, and we pump it into the vacuum, but eventually we arrive at the point where the pressure of the oxygen inside is greater than the pressure outside. Therefore, the screening force field is broken in its weaker points and the oxygen escapes. When the balance is restored, the rupture isn't sealed and gas seeps in."

Strong glanced questioningly at Captain Howard and at Kit Barnard, who had been asked to remain on Titan and lend his assistance to the problem of the screens.

"Well, gentlemen?" asked Walters, noticing Strong's glance. "That is my theory. Do any of you have a better one? Or a more reasonable explanation?"

Strong, Barnard, and Howard shook their heads. A complete check of every possible source of trouble had been made by the four men and they had found nothing.

"We still have to wait for a report from the electronics sections, sir," said Howard, rubbing his eyes. He started to get up and then suddenly slumped to the floor.

"By the craters of Luna!" cried Walters, jumping to the young officer's side. Howard was picked up and placed on a nearby couch. While Strong and Kit loosened his clothing, Walters grabbed the nearest oxygen mask and slipped it over the spaceman's face.

"Funny that he should pass out like that," commented Strong, sniffing the air. "I *still* don't smell anything."

Kit looked up at Strong and grinned. "He's not gassed. He's asleep."

"Asleep!" exclaimed Walters.

The enlisted spaceman standing on guard at the door stepped forward and saluted smartly. "Captain Howard hasn't slept for the last five days," he said.

"He's been working night and day."

Walters smiled. "All right, Sergeant, take him to his quarters." Then he held up his hand. "No, let him stay where he is." He turned to Steve. "Come on, Steve. You too, Kit. Let's see if we can't get a report from the electronics section before we speculate any further."

The three men left the control-tower office under the watchful eyes of a squad of Space Marines. Trouble had already started at the spaceport when a crowd of excited miners had charged a detachment of enlisted men guarding Solar Guard cruisers. The crowds were growing panicky as the deadly gas filled the city, unchecked.

Strong, Walters, and Kit Barnard climbed into a waiting jet car, amid the hoots and catcalls from the waiting miners, and hurtled away to the giant building housing the electronic "brain" that controlled the force-field screens.

Walters' face was grim. Beside him, Strong and Kit were silent as they raced through the empty streets. If there was no positive discovery by the electronics section of the huge screening operations, then it would have to be assumed that Commander Walters was right in his theory of overpopulation. To remedy that situation would require complete reconstruction of the satellite settlement and temporary abandonment of Titan. Millions of dollars would be lost and thousands of people thrown out of work. It would be a severe blow to the Solar Alliance.

The jet car slowed to a stop. They were in front of the electronics building and the three men climbed out wearily. They would know in a few minutes now.

CHAPTER 13

"You're afraid of your own shadow!" Miles snarled over his shoulder to Charley Brett who followed him out of the room. Brett was adjusting his oxygen mask with one hand and gripping a paralo-ray gun tightly with the other.

"Never mind the cracks," snapped Brett, his voice muffled by the mask. "I tell you I heard someone moving around in here."

Miles laughed again and walked straight to the middle of the room. With their backs pressed to the wall beside the door, Tom and Astro saw Miles bend over and lift a trap door in the middle of the floor.

The two men flashed a light down into the opening and climbed down, pulling the trap door closed after them.

No sooner was it shut than Tom and Astro jumped forward to examine it cautiously. Astro started to pull it open but Tom held out a warning hand. He turned and pointed toward the room that Miles and Brett had left. Astro nodded and they walked quickly back to the door. Sliding it open, they stepped inside.

"By the rings of Saturn!" cried Astro.

"Well, blast my jets!" Tom exclaimed.

The air in the room was clear, completely free of the misty whirling methane ammonia of death that swirled around them outside. Recovering from his surprise quickly, Astro closed the door and walked to the center of the room, looking around curiously. Tom had already slipped off his mask and was examining the equipment lying on the floor. Astro bent over an oddly shaped machine that looked somewhat like an ancient compressed-air drill, with a long bar protruding from one end. He examined the bar closely and then turned slowly to Tom.

"Do you know what this machine is?" he asked in almost a whisper.

Tom looked at it and then shook his head.

"I haven't seen one of these since I left Venus, and then only when I was a kid hanging around the spaceports where the space rats used to blast off for the asteroids looking for uranium."

"You mean you hunt uranium with that thing?" asked Tom.

"No, you dig it out with this."

Tom gazed at the machine thoughtfully. "Why would it be here?" he mused. "It's already been used," said Astro, standing up. "Look, the drill head is dull."

"That trap door!" Tom exclaimed. "It leads to a mine. Miles and Brett have discovered high-grade uranium right here on Titan where everyone thought there was nothing but *crystal!*"

Astro nodded grimly. "And that isn't all. This room is free of ammonia gas."

"But how in the star-blazing dickens can they keep it out of here when everything else outside is flooded with it?" asked Tom.

Astro spun around and began to examine the walls. "Just as I thought!" he exclaimed. "This room is airtight! Sealed! Oxygen is being pumped in here."

"From where?"

"Might be from somewhere below," replied the big Venusian. "Down that trap where Miles and Brett went."

Tom put his mask back on and headed for the door. Astro followed him. They opened it a little and peered into the swirling mist.

"Then it's being pumped in directly," Tom asserted. "Through a duct leading directly up into this room from somewhere below."

Astro nodded. "Then there's only one thing left to do. Go down through that trap door and see what we can find." He stepped forward.

"Wait a minute, Astro," said Tom, stopping him. "Let me check our oxygen. There might not be any down there. Remember, Miles and Brett wore *their* masks."

Making a quick check of their oxygen supply, Tom patted Astro on the back and started forward. "It's O.K. We've got another four hours left. Come on!"

They moved toward the trap door slowly.

"I still wish I had a ray gun," whispered Tom.

"As long as I can use these"—Astro balled his hamlike hands into fists —"we're O.K."

When they reached the trap door, Tom got down on his knees and felt around for the opening. He found a small ring bolt, motioned to Astro to step back, and pulled. The trap door swung back easily and a shaft of white light gleamed in his face. The young cadet leaned down and looked through the opening. What he saw made him gasp.

"What is it?" demanded Astro.

Tom got down on his knees and felt around for an opening

Tom motioned for him to get down and look. The big cadet dropped lightly to his knees to peer through the opening. "By the moons of Jupiter," he exclaimed, "it's a—a mining shaft!"

"Just what we thought it was," whispered Tom. "Come on. Let's go down and find out where it leads."

"Maybe we'd better go back and tell Captain Strong about this first," Astro said speculatively.

"There's no telling what Brett and Miles are liable to do while we're gone," said Tom. "You find Captain Strong and I'll go down into the shaft and look around."

"Not on your life," protested Astro. "You don't think I'd let you go down there alone, do you? *You* go back to Captain Strong and *I'll* see what those two are doing down there."

Tom grinned. "O.K., we'll both go down," he said.

Opening the trap door all the way, Tom eased himself down into the opening. Astro followed. Immediately below the trap, they found a ladder, fixed to the wall of the shaft, which led directly down to a point about thirty feet below the surface of Titan. At the bottom the two cadets paused. A long tunnel stretched before them.

"Listen to that!" exclaimed Astro.

Tom ripped off the mask and listened. He heard a strange noise which sounded more like the roar of escaping gas than a motor.

"What is it?" asked Tom.

"That's what I'd like to know!"

"And that light," continued Tom, pointing down the length of the tunnel. "Do you suppose it's Miles and Brett?"

"It isn't moving," commented Astro.

"Well, since we're here we might as well find out as much as we can," Tom decided. "Let's go."

The two cadets flattened themselves against the side of the shaft and inched forward. The hissing noise was slowly building up to a roar now, and as they made their way along the shaft, they passed other smaller tunnels that branched off to the left and right. There was evidence of recent work. Tools were scattered along the tunnel floors, as if the workers had dropped them in sudden flight.

The light ahead of them grew brighter, and as they rounded a corner, they saw a bare, unshaded lamp suspended from the roof of the tunnel.

Tom suddenly stopped and jerked Astro back. "Look!" he exclaimed, pointing to the floor, not two paces away. A thin wire, hardly noticeable, was stretched across the floor at ankle height.

"That bright light is to attract your attention while you trip over that thing and probably blow yourself to bits," he said grimly, pointing to the wall where the wire was connected to a small charge of explosives. "Nothing to bring the roof down," he continued, "but enough to blast whoever tripped over this wire."

Stepping over the wire carefully, they started down the shaft again, but Tom paused thoughtfully.

"What's the matter?" asked Astro.

"That booby trap," said Tom. "We'd better not take any chances of tripping over it on the way back. We might be in a hurry."

"I know what you mean," grunted the big Venusian. He knelt down beside the menacing box of explosives and quickly disconnected the trip wire, throwing the box to one side.

Straightening up, Astro announced, "It's harmless now."

Cautiously the two cadets continued down the tunnel, the roaring sound growing louder and louder. After twenty minutes, Astro paused, his homely features wrinkled in a frown of worry.

"Think maybe Miles and Brett went off into one of the other side tunnels?"

he asked.

Tom thought a moment. "No, I don't, Astro. We haven't hit another side tunnel since we passed that booby trap back there. What would be the use of setting that thing up if they went in another direction?"

"There must be another way out of here, then," Astro remarked.

"Why?"

"That part of the tunnel back there by the bomb was loose dirt. If the bomb had exploded, the whole tunnel would have been blocked off and how could they get out?"

Tom didn't answer. He was thinking about what he was going to do if there should be another booby trap in the tunnel. It was so dark now that they could hardly see more than a few feet ahead. The bright light was merely a pinpoint in the distance behind them.

And then Tom became aware that the roar that had been with them constantly since they had entered the shaft had now lessened in volume. But they had not passed a single branch-off tunnel where the sound could have originated. Tom made up his mind quickly.

"Come on, Astro," he said. "We're going back."

"Why?"

"I haven't time to explain now, but you walk close to one side of the shaft and I'll take the other. Feel along with your hands for anything like a door or an opening. I think we've passed them."

Without another word, Astro turned around and headed back, feeling along the tunnel wall.

It did not take the two cadets long to discover what they were looking for. A heavy wooden door was set flush with the side of the tunnel. And when Tom pressed his ear to it, he could hear the roaring sound throbbing heavily inside.

"See if you can open it, Astro," said Tom. "But take it easy."

Astro felt along the side of the door until he found a wooden latch and he lifted it gently. The door swung back, as if pushed, as a powerful draft caught it from the other side. The roar was now deafening.

Tom stepped inside cautiously, followed by Astro. They found themselves on a small balcony overlooking a huge subterranean room. In the room they saw Quent Miles and Charles Brett bending over a table on which were several delicate electronic instruments. Tom and Astro recognized them immediately as testing machinery for radioactivity, much more advanced and sensitive than the ordinary Geiger counter. Around the two men was ample evidence of Astro's original assumption that they were digging into a hot vein of uranium pitchblende. To one side of the room, lead sheets lined a rough boxlike structure that Astro and Tom guessed was covering for the radioactive vein. Against the wall lay the lead-lined suits used by the miners. Further to one side, Tom saw a huge open pipe. He nudged Astro.

"Look, over there," Tom whispered. "That's where the oxygen is coming

from!"

Below them, Miles suddenly walked to the pipe and pulled a large lever on its side. The roaring sound stopped immediately and the boys felt the air pressure in the room lessen slightly.

"That blasted noise is driving me crazy," explained Miles, walking back to the table, his voice echoing in the rock-walled cavern.

Brett, leaning over the table, was stabbing around futilely in one of the sets of tubes in a complicated testing device. "Wish we had that squirt Manning here," he mumbled. "He could fix these things up in no time at all."

"I could always go back to the hide-out and get him," suggested Miles.

On the balcony Tom gripped Astro's arm tightly.

"Astro! Did you hear that?" he exclaimed.

The big cadet nodded and started to rise from their place of concealment. Tom pulled him down. "Wait," he whispered sharply. "No use barging in on them yet. Maybe we can find out where Roger is first."

Astro reluctantly crouched down again, his hamlike hands balled into fists.

The two cadets watched Quent Miles and Brett work on the instruments awhile longer. Finally Miles slammed down a pair of wire cutters on the table and growled at Brett. "No use messing with this thing any longer. I don't know what makes it tick, so I can't find the trouble. We need new equipment."

"It'll take at least two weeks to get new equipment the way things are going here at Titan," replied Brett.

"Well, there's no use hanging around here if we can't dig any more of the stuff out, and I ain't going behind that lead shield unless I got a machine that tells me it's safe."

"I've been thinking about Manning," said Brett.

"What about him?"

"Suppose we move the stuff we've already mined to the hide-out, and take this equipment along too. He can repair it out there. We can turn off the oxygen that we're sucking off from the Solar Guard pumps, and by the time we get back here, the old satellite will be back to normal. Then, with the equipment repaired and Olympia back to normal, we can really begin operations."

Quent nodded quickly. "Good idea. Come on. Let's get this stuff aboard the ship."

On the balcony Tom and Astro looked at each other.

"They're responsible for what's happened here on Titan!" whispered Tom. "They have been sucking off oxygen from the main pumps supporting the force field."

"Come on, Tom," growled Astro. "My fist is just itching to make contact with a couple of no-good chins."

"Not so fast! We still don't know where they've got Roger."

"You want to keep on following them?" asked Astro.

"At least to their ship," Tom replied. "Then we can notify Captain Strong

and he can track them in the *Polaris*. If we barge in on them now, we'll just get the satisfaction of knocking their heads together with no guarantee of any information." The young cadet turned to the door. "We'll sneak up the tunnel a way and then follow them out."

"Hurry!" said Astro. "Here they come." Quent, carrying one of the instruments, had started up the steps to the balcony.

Tom grabbed the latch and pushed up but the door would not open. "Give me a hand, Astro, quick!" he called.

Astro grabbed the latch and heaved his bulk against the door. Suddenly he stepped back dumfounded, holding the latch in his hand. It had snapped off.

Just at that moment Brett looked up and saw them. He shouted a warning to Miles, who dropped the instrument he was carrying and pulled out his ray gun.

"Just stand where you are!" he snarled, leveling the gun at them.

Tom and Astro stood quietly, hands in the air.

"How in blazes did they get here?" Brett cried.

"They must have followed me," said Miles. "They certainly couldn't have known about this place."

"But how did they get past the trap?" Brett persisted, still amazed and shaken by the unexpected appearance of the cadets.

Astro snorted his contempt. "You must think we're a couple of prize space jerks," he growled. "You can't even kill a mouse with that thing now."

"Let's cut the talk," said Miles. "What do we do with them?"

"Freeze them!" snapped Brett. "No telling how long they've been here and how much they know."

"We know enough to put you on a prison asteroid," challenged Tom.

"Freeze 'em, it is," said Quent. "We'll get the ship loaded and decide what to do with them later."

He pressed the trigger on his ray gun. There was a harsh crackling sound and Tom and Astro stiffened into immobility, every nerve and muscle deadened. With the exception of their hearts, and sense of seeing and hearing, they might have been dead men.

Laughing to themselves, Quent Miles and Charles Brett picked up their instruments, walked past them, and disappeared through the door.

CHAPTER 14

Charles Brett swaggered into the control room of the electronics building. Commander Walters, Captain Strong, and Kit Barnard looked up from their study of the reports the chief engineer had handed them.

"What are you doing here, Brett?" demanded Walters. "I thought you had blasted out of here long ago."

"I'm leaving as soon as we sign the contracts for hauling the crystal, Commander," said Brett.

"Contracts!" exploded Strong. "Why, man, do you realize that this satellite is about to die? If we don't find out what's wrong with the screens, there won't be any crystal mined here for the next ten years."

Brett shook his head and smiled. "That's all right with me too," he said. "The contracts call for either party to satisfy the other should either party fail to fulfill the contractual agreements. In other words, Strong, I get paid for making the trip out to Titan, whether you have crystal to haul or not."

"Why, you dirty—" snarled Strong.

"Just a moment, Steve," Walters interrupted sharply. "Brett's right. We had no way of knowing that this situation would arise, or grow worse than it was in the beginning. Brett went to a great deal of expense to enter the race and win it. If he insists that the Solar Guard abide by the contract, there's nothing we can do but pay."

"It won't be too bad, Commander Walters," said Brett. "I have my ship loaded with crystal now, and if you'll just sign the contracts, I can deliver one cargo of crystal to Atom City before Titan is abandoned."

"Wait a minute," cried Strong. "Who gave you the right to load crystal before signing the contract?"

"I assumed the right, Captain Strong," replied Brett smoothly. "My ship won the race, didn't it? Why shouldn't I start work right away?"

"Well, that's beside the point now, anyway," Walters said. "We may need your ship to take miners and their families to Ganymede or Mars, Brett. Never mind the crystal. One load won't mean very much, anyway."

"No, thank you," growled Brett. "I don't haul any miners in my ship. The contracts call for crystal and that's all."

"I'm ordering you to take those people, Brett," said Walters coldly. "This is an emergency."

"Order all you want," snapped Brett. "Look at your space code book, section four, paragraph six. My rights are fully protected from high-handed

orders issued by men like you who think they're bigger than the rest of the people."

Walters flushed angrily. "Get out!" he roared.

"Not till you sign that contract," Brett persisted. "And if I don't leave with a signed contract in my pocket, I'll have you up before the Solar Alliance Council on charges of fraud. You haven't got a leg to stand on and you know it. Now sign that contract."

Abruptly, Walters turned to an enlisted spaceman and instructed him to get his brief case from the *Polaris*, then deliberately turning his back on Brett, continued his study of the report. Strong and Kit Barnard watched Brett with narrowed eyes as the arrogant company owner crossed to the other side of the room and sat down.

"You know something, Steve," said Kit quietly. "Back at the Academy, I failed to register a protest about someone dumping impure reactant into my feeders."

"What about it?" asked Strong.

"I'd like to register that protest now."

"Now?" Steve looked at him, a frown on his face. "Why now?"

"For one thing, Brett couldn't blast off until there was an investigation."

"You might have something there, Kit," replied Strong with a smile. "*And* since Brett won the race under such—er—mysterious circumstances, I'd suggest an investigation of the black ship as well, eh?"

Kit grinned. "Shall I make that a formal request?"

"Right now, if you like."

Kit turned to face Commander Walters. "Commander," he announced, "I would like to register a formal protest with regard to the race."

Walters glanced up. "Race?" he growled. "What the devil are you talking about, Kit?"

"Captain Barnard seems to think that Mr. Brett's ship might have used equipment that was not standard, sir," Strong explained. "In addition, his own ship was sabotaged during the time trials."

Walters looked at Strong and then at Kit Barnard, unable to understand. "What's happened to you two? Bringing up a thing like that at this time. Have you lost your senses?"

"No, sir," replied Kit. "But I believe that if a formal investigation was started, the Solar Guard would be within its legal rights to delay signing the contracts until such investigation was completed."

Walters grinned broadly. "Of course! Of course!"

Brett jumped up and stormed across the room. "You can't get away with this, Walters!" he shouted. "I won this race fairly and squarely. You have to sign that contract."

"Mr. Brett," said Walters coldly, "under the circumstances, I don't have to do a space-blasted thing." He turned to Kit. "Is this a formal request for an investigation, Kit?" He was smiling.

"It is, sir."

"Very well," said Walters, turning to Brett. "Mr. Brett, in the presence of two witnesses, I refuse to sign the contracts as a result of serious charges brought against you by one of the participating entrants. You will be notified of the time and place of the hearing on these charges."

Brett's face turned livid. "You can't do this to me!"

Walters turned to one of the enlisted guardsmen. "Escort Mr. Brett from the room," he ordered.

A tall, husky spaceman unlimbered his paralo-ray rifle and nudged Brett from the room. "I'll get even with you, Walters, if it's the last thing I do," he screamed.

"You make another threat like that to a Solar Guard officer," growled the enlisted spaceman, "and it'll be the *last* thing you do."

As the door closed, Walters, Strong, and Kit laughed out loud. A few seconds later, as the three men returned to their study of the report, there was a distant rumble, followed quickly by the shock wave of a tremendous explosion. Walters, Strong, and Kit and everyone in the room were thrown to the floor violently.

"By the craters of Luna," yelled Strong, "what was that?"

"One of the smaller screens has given way, sir!" yelled the chief electronic engineer after a quick glance at the giant control board. "Number seven."

Walters struggled to his feet. "Where is it?" he demanded.

Strong and Kit got to their feet and crowded around the commander as the engineer pointed out the section on the huge map hanging on the wall.

"Here it is, sir," he said. "Sector twelve."

"Has that area been evacuated yet?" asked Strong.

"I don't know, sir," replied the engineer. "Captain Howard was in charge of all evacuation operations."

Walters spun around. "Get Howard, Steve. Find out if that part of the city has been cleared," he ordered and then turned to Kit. "You, Kit, take the Space Marines and round up every spare oxygen mask you can find and get it over to that section right away. I'll meet you here"—he placed his finger on the map—"with every jet car I can find. No telling how many people are still there and we have to get them out."

Almost immediately the wailing of emergency sirens could be heard spreading the alarm over the city. At the spaceport, where the citizens were waiting to be taken off the satellite, small groups began to charge toward the loading ships in a frenzy of fear. Since Titan had been colonized, there had never been a single occasion where the sirens had warned of the failure of the screens. There had been many tests, especially for the school-age children and the miners working far below the surface of the satellite, but this was the first time the sirens howled a real warning of danger and death.

Strong raced back to the control tower of the spaceport in a jet car and burst into the room where the captain was still asleep on the couch. Strong shook

him violently.

"Wake up, Joe!" he cried. "Come on. Wake up."

"Uh—ahhh? What's the—?" Howard sat up and blinked his eyes. "Steve, what's going on?"

"The screen at sector twelve has collapsed. How many people are still in there?"

"Collapsed! Sector twelve?" Howard, still groggy with sleep, dumbly repeated what Strong had said.

Strong drew back his hand and slapped him across the face. "Come out of it, Joe!" he barked.

Howard reeled back and then sat up, fully awake.

"What—what did you say?" he stammered.

"Sector twelve has gone," Strong repeated. "How many people are left there?"

"We haven't even begun operations there yet," Howard replied grimly. "How long have I been asleep?"

"A couple of hours."

"Then there's still time."

"What do you mean?"

"Just before I folded, I ordered the evacuation crews to start working on sector eleven. They should be finished now and just about starting on twelve. If they have, we have a good chance of saving everyone."

"Let's go."

The two men raced out of the control tower to the jet car and roared through the desolate streets of the city. All around them commandeered jet cars raced toward the critical area. Commander Walters stood in the middle of an intersection on the main road to sector twelve, waving his arms and shouting orders to the enlisted guardsmen and volunteer miners that had raced back into the city to help. On the sidewalk, enlisted guardsmen handed out extra oxygen masks to the men who would search the area for anyone who might not have gotten out before the screen exploded. The main evacuation force that had been under Howard's supervision had already moved in but there was still a large area to cover.

"We'll split up into six sections!" roared Walters, standing on top of a jet car. "Go down every street and alley, and make a house-to-house search. Cover every square inch of the sector. If we lose one life, we will have failed. Move out!"

With Strong, Kit, Howard, Walters, and other officers of the Solar Guard in the lead, the grim lines of men separated into smaller groups and started their march through the deserted city. The swirling gas already was down to within a hundred feet of the street level. When it dropped to the surface, each man knew there would be little hope for anyone remaining alive without oxygen masks.

Every room of every house and building was searched, as over all, the

deadly swirling gas dropped lower and lower and the pressure of the oxygen was dissipated.

Once, Strong broke open the door to a cheap rooming house and raced through it searching each room. He found no one, but something made him go back through the first-floor rooms again. Under a bed in a room at the end of the hall he found a young boy huddled with his dog, wide-eyed with fear. Such incidents were repeated over and over as the searchers came upon sleeping miners, sick mothers and children, elderly couples that were unable to move. Each time they were taken outside to a jet car where masks were strapped over their faces, and then driven to the spaceport. And, all the while, the deadly methane ammonia gas dropped lower and lower until it was within ten feet of the ground.

There were only a few buildings left to search now. The lines of the men had reached the open grassy areas surrounding the city proper, and as they collected in groups and exchanged information, Walters gathered them together.

"You've done a fine job, all of you," he said. "I don't think there's a living thing left in this entire sector. All volunteers and the first four squads of enlisted guardsmen and second detachment of Space Marines return to the spaceport and prepare to abandon Titan. Give all the aid to the officer in charge that you can. Again, I want to thank you for your help."

As the group of men broke up and began drifting away, Walters hurried over to Strong and Kit Barnard. "Steve," he said, "I want you to supervise the evacuation at the spaceport. Since this screen has blown up, those poor people are frightened out of their wits. And they have a right to be. If a major screen blew instead of a small one, we really would be in trouble."

"Very well, sir," replied Strong. "Come on, Kit, you might as well blast off with a load of children."

"Sure thing."

"Just a minute," Walters interrupted. "I would consider it a service, Kit, if you would send your young assistant back with your ship and you stick around until we get all the people safely off."

"Anything I can do to help, sir," replied Kit.

At that moment a tall enlisted spaceman walked up to Walters and saluted sharply. Walters noticed the stripes on his sleeve and his young-looking face. He couldn't remember ever seeing such a young master sergeant.

"Captain Howard asked me to make my report to you, sir," said the guardsman.

"Very well, sergeant," said Walters.

The young spaceman made a detailed report of his search through sectors eleven and twelve. While he spoke, Strong kept looking at him, puzzled. When the guardsman had finished, Strong asked, "Don't I know you from somewhere, Sergeant?"

The guardsman smiled. "You sure do, Captain Strong. My name's Morgan,

sir. I was a cadet with Tom Corbett and Astro, sir, but I washed out. So I joined the enlisted guard."

"Congratulations, Sergeant," said Walters. "You're the youngest top kick I've ever seen." He turned to Strong. "Apparently we slipped up, Steve, letting this chap get out of the Academy so he could make a name for himself in the enlisted ranks."

"Thank you, sir," replied Morgan, blushing with pride.

"Have you seen the cadets, by any chance, Sergeant?" asked Strong. "They're both here on Titan with me."

"Oh, yes, sir," said Morgan. "I saw them some time ago."

"Where?"

"A few blocks closer to the heart of town," said Morgan, pointing back down the avenue. "We were just starting in on sector eleven and I saw them coming out of a restaurant."

"Funny they haven't returned," commented Walters. "And what would they be doing down there?"

Strong's forehead creased into a frown of worry. "Sir, I wonder if you'd allow me a half hour or so to look for them?" he asked. "If they were anywhere near this section when the screen collapsed, they could have been injured by the sudden release of pressure."

"They had masks, sir," said Morgan. "I gave them a couple myself."

Walters thought a moment. "It's just possible they might have been injured in some way," he mused. "Go ahead, Steve. If you don't find them, and they don't show up at the spaceport, we'll organize a full search."

"Thank you, sir," said Strong. "You come along with me, Sergeant."

Adjusting their oxygen masks, Captain Strong and Sergeant Morgan strode down the street through the swirling mist of deadly methane ammonia to begin their search for Tom and Astro.

CHAPTER 15

"Listen!"

Captain Strong grabbed the young master sergeant by the arm and stood stock-still in the swirling methane ammonia gas, his eyes searching the misty sky.

"What is it, sir?" asked Morgan.

"A spaceship decelerating," said Strong, "coming in for a touchdown!"

"I think I hear it now, sir!" said Morgan.

"Can you figure out where it is? I can't see a blasted thing."

"Sounds to me as though it's to the left, sir."

"O.K., let's go and investigate," said Strong. "There isn't any good reason for a ship coming down in this deadly soup—or in this area."

Walking slowly and cautiously, the two spacemen angled to the left, peering through the clouds of gas that seemed to get thicker as they moved along. The roaring blast of the ship became louder.

Strong put his hand out to stop Morgan. "Let's hold up a minute, Sergeant," he said. "I don't want to get too close until I know what we're facing."

They stood absolutely still, the gas swirling around them in undulating clouds that grew thicker one minute and then thinned out again. As the gas thinned for a few seconds, Strong gasped and pointed.

"Look!" he cried. "By the craters of Luna, it's Brett's ship!"

"Brett?" asked Morgan.

"Charles Brett. He owns that ship. It's the one that won the space race from Earth. Now, what would he be doing landing out here?"

"I think he came down beside that warehouse up ahead, sir," said Morgan, as the gas cloud closed in again, cutting off their view of the actual landing. "It used to be a storehouse for mining gear a couple of years ago, but it's been empty for some time."

"I think we'd better check this, Sergeant," said Strong firmly. "Come on."

Strong started forward, then stopped, as a particularly heavy cloud of the deadly gas swirled around them. The two spacemen clung together blinded by the dense methane ammonia that would kill them in thirty seconds should their oxygen masks fail. In a moment the foggy death thinned out again and they continued toward the warehouse and the sleek black ship behind it.

* * * * *

Tom Corbett and Astro heard the roaring blast of the ship's exhaust. They saw Brett and Miles haul the instruments out of the cavern. They saw; they could hear; but they could not move. For nearly three hours they had remained alone in the cavern, frozen in the exact position they were in when Quent Miles had blasted them with his paralo-ray gun. And then Brett and Miles were standing before them again, Miles covering them with his paralo-ray gun.

"Why should we break our backs loading the ship?" sneered Miles. "Let them carry it out for us."

"Look!" Strong cried. "It's Brett's ship!"

"All right, release them," agreed Brett. "But get that stuff loaded in a hurry. Walters is either getting suspicious or he's pulling a bluff. We can't take any more chances."

Miles flipped on the neutralizer switch of the paralo ray and leveled it at Tom. "We'll take the little fella first," he said. "If he acts up, we'll just leave the other fella the way he is."

He fired at Tom, and the young cadet began to shudder violently. His teeth chattered and he found it difficult to focus his eyes as his nervous system tried to shake off the effects of the ray. He crumpled to a heap on the balcony floor and gasped for breath.

"He won't be much use to you for a while." Brett laughed. "Look at him flopping around like a fish out of water."

"Get up!" snarled Miles at Tom, quickly flipping the ray gun back to positive charge. "Come on. You're not that bad off. Get up." He leaned over and prodded the cadet with the gun. "If you don't get up, I'll freeze you again," he threatened.

Tom struggled to his feet. "I'll get you for this, Miles," he gasped weakly, his teeth still chattering.

"Never mind the hot air!" snarled Brett. "Go down there and start hauling up those boxes."

Tom turned helplessly and stumbled down the stairs to the floor of the cavern.

"Now for the big fellow," said Miles. He fired the neutralizer charge and Astro started to quiver at the shock of the release. But he clamped his teeth together and made a quick lunge for Miles, reaching for the spaceman's throat. Expecting the attack, Miles stepped aside quickly and brought the gun down sharply on the big cadet's head. Astro dropped to the floor, half-stunned. The black-clad spaceman leveled the ray gun and sneered, "Try that again, you overgrown punk, and I'll drop you on your head."

Astro shook his head and stumbled to his feet. He glared at Miles, spun away, and walked down the stairs shakily.

Miles and Brett stood on the balcony and watched the two cadets working on the cavern floor. "Hurry it up there!" shouted Miles. "We haven't got all day."

Brett took his ray gun from his belt and stepped forward. "I'll handle Corbett," he said. "You take care of the big one."

"Right," replied Miles. "But stay well in back of them and keep your gun on them all the time."

"How long do you think it'll take to get the ship loaded?" asked Brett.

"Couple of hours. But what are you going to do about Walters if he's wise?" Miles shrugged his shoulders.

"Simple," said Brett. "We take the stuff we've got, haul it to the hide-out, dump it, and return to Atom City. Then we just sit tight and wait until the situation clears up here on Titan."

"What about that investigation?" asked Miles, keeping his eyes on the cadets, who were now staggering back to the stairs, each carrying a heavy lead box containing the precious uranium pitchblende.

"What can an investigation prove?" snorted Brett.

"I don't know. Walters and Strong are pretty smart cookies."

"Unless they have witnesses that you were messing around Kit Barnard's ship, which they don't, and unless they find out about Ross, which they won't, there isn't anything they can do."

Miles looked down at the shorter man beside him. "Ross, eh?" He laughed.

Brett stared at him and then shrugged. "I always get mixed up," he said. "But you know what I mean."

"Sure, I know." Miles turned to watch Astro and Tom start up the stairs to the balcony, the lead boxes on their shoulders. "What are you going to do with them?" he said.

"Take them to the hide-out and decide later. Besides, they'll be handy for unloading the ship."

"Good idea," nodded Miles. He took a deep breath and smiled. "I sure wish I could see Walters' face when he learns about the new load of uranium that'll flood the market."

Brett laughed. "Yeah, and with the customs clearance we'll get to haul in the crystal, there'll be no way they can figure out how it's getting in."

Miles turned and shouted at the two cadets struggling up the stairs. "Come on, you two. Get a move on."

"We're making it as fast as we can, Miles," Astro protested.

"It ain't fast enough," sneered the spaceman. He reached out with his free hand and slapped Astro across the mouth. "That's just to remind you to watch your tongue, or you might wind up an icicle again."

Astro dropped the box and crouched, his big frame ready to be released like a coiled spring. Miles backed up and fingered the trigger on the ray gun. "Come on, stupid," he snarled. "Come on, I'll give it to you again, only this time—" He smiled.

"No, Astro," called Tom. "There's nothing we can do now. No use getting frozen again."

"That's using your head, Corbett." Miles laughed. "Pick up that box and get going."

Astro picked up the lead box again and staggered after Tom toward the door. Miles and Brett stepped back, guns ready, and watched the two cadets walk slowly ahead of them into the tunnel.

* * * * *

Captain Strong and Sergeant Morgan crept to the side of the warehouse and flattened themselves against the wall. With the gas swirling around them thicker than ever, they found it more difficult than ever to see where they were going.

"I think I see a door ahead," said Strong.

"Want me to see if it'll open, sir?" asked Morgan.

"No. I'll look around in the warehouse," replied the Solar Guard captain. "You investigate the ship. If anyone's aboard, keep him there until I contact you. If not, come back here and wait for me."

"Very well, sir," said Morgan, and turned toward the black ship. In a moment he was lost in the deadly mist.

Strong made his way to the door and twisted the latch. The door slid open easily, and he stepped inside, closing it behind him and waiting for some signs of life or movement. The gas was like a thick fog in the room and he inched his way forward, hands outstretched like a blind person. Gradually he began to see the vague form of a door on the opposite wall and he made his way toward it, completely unaware that he came within inches of falling through the open trap door in the floor.

He opened the door in the wall slowly, peering inside cautiously. He was startled to feel the faint rush of air on his hands and to see the room clear of the dangerous methane ammonia gas. He moved quickly inside and made a hurried inspection of the gear, not bothering to look to examine it closely. He shrugged his shoulders. It was just as Morgan had said. An abandoned warehouse with old mining gear and nothing else.

Suddenly he stopped. There was something strange about the room and he looked around again. The gas! There were no ammonia vapors in the room. He quickly searched along the walls for some outlet of oxygen, remembering now the rush of air he had felt as he opened the door. Close to a corner near the door, he found a small opening. Air poured out of it in a steady rush. He straightened up, his face grim. "So that's it," he said to himself. "Somebody has been sucking off oxygen from the main pumps!"

Strong headed for the door. "But why?" he asked himself. "Why in this particular building?"

He strode out of the room and inched his way across the outer room toward the front door, again narrowly missing the open trap door.

Once outside, he made his way along the side of the building in the direction that Morgan had taken. When he reached the corner, he could see the black bulk of the *Space Knight* a hundred yards away. He ran toward the base of the ship and met Morgan coming toward him.

"Find anything, Sergeant?" he called.

"Nothing, sir," replied Morgan. "The ship is ready to blast off and her cargo holds are full. But that's all."

"Full of what?"

"I couldn't see, sir. The main hatch was locked and I could only see through

the viewport. But it just looked like general cargo to me."

"Couldn't have been crystal?"

"It might have been, sir. It was pretty dark in the hold but it looked like a lot of boxes to me."

"You don't put crystal blocks in boxes," said Strong.

"Sometimes they do, sir. The more expensive grades are crated, so that the surfaces won't get scratched. Pieces that are going to be used for outer facings on a building, for instance."

"All right, Sergeant. But I found something back in that building that is going to prove very interesting."

"The cadets, sir?"

"No. An illegal use of oxygen!"

Quickly Strong explained his discovery, concluding, "Come on. We're going back in there for a closer inspection!"

"But we can't, sir," said Morgan.

"Why not?"

"We only have enough oxygen left in our tanks to get us back to the cleared area."

"Blast it!" growled Strong. "Aren't there any masks aboard the ship?"

"No, sir," replied Morgan.

"Very well, then. The only thing we can do is go back and bring out a searching party in force." Strong turned and walked rapidly away. "Come on, Sergeant, I think we're on the way to answering a lot of questions about the failure of the screens."

Almost running, the two spacemen disappeared into the swirling mist of deadly gases.

No sooner were they out of sight than Tom Corbett and Astro, faces covered with oxygen masks, emerged from the warehouse and headed toward the ship, Miles and Brett close behind them with paralo-ray guns leveled at their backs.

CHAPTER 16

Roger Manning opened his eyes, then closed them. He lay perfectly still and listened. The sound he heard was the unmistakable blasting roar of a spaceship. But there was another sound, much closer. In fact, it was in the room with him.

He opened one eye to see Quent Miles moving about in the one-room, airtight space hut which had been his jail for the last week. Miles was throwing clothes into a space bag, keeping a wary eye on Roger, sprawled on the bunk. Hoisting the bag to his shoulder, Miles closed the face plate of his space helmet, turned to the air lock, and stepped inside, slamming the portal behind him. From the bunk, Roger could hear the hissing of the change of pressure inside the lock from normal to the vacuum of space outside.

The entire week had been a time of waiting and wondering. He couldn't understand Miles' actions in taking him prisoner the moment before blast-off from Earth, and then keeping him at the asteroid, seemingly giving up all chances of winning the race.

Roger waited until he was sure that the black-clad spaceman had gone, then he sat up and worked desperately on the thin metal chain binding his wrists. He had been working on one of the links ever since his arrival at Miles' strange asteroid base, scraping it against the rough metal edge of one of the legs of his bunk. Two days before, he had succeeded in wearing it down to a point where he could snap it easily when the opportunity came for him to make a break. But so far the chance had not presented itself. He had been kept prisoner in the space hut, and Miles had pushed his food in through a vent in the air lock. Now, however, with the sound of the spaceship outside, the cadet decided it was time for action.

Working quickly, Roger snapped the link and tore off the chain, freeing his hands. He allowed himself the longed-for luxury of stretching just once, and then crossed to the small locker beside the air-lock door to take out a space suit. He climbed into it hurriedly, secured the helmet, and began searching the small room for a weapon. In the bottom of a chest he found a rocketman's wrench. Grasping it tightly, he stepped into the air lock. Just before he turned on the oxygen in his space suit, he listened again for the noise of the blasting ship. Then he grinned as he realized that it wasn't the noise of the ship he heard, but the vibration it created on the surface of the asteroid. Sound wouldn't travel through the vacuum of space outside. Suddenly it stopped and Roger realized the tubes were being blasted in preparation for take-off. The

young cadet closed the inner portal of the lock, adjusted the pressure, turned on the oxygen of his suit, and waited. In a moment the indicator showed the pressure to be equal to that outside in space, and he opened the outer portal cautiously.

A section of the asteroid belt swam above him. Hundreds of small planetoids and various-sized pieces of space junk drifted in the cold vacuum of space overhead. Roger looked around. The asteroid he was on was so small and the horizon such a short distance away that the base of Miles' giant black ship was half-covered by the curvature of the planetoid.

Holding the wrench tightly in his hand, the blond-haired cadet circled around the space hut cautiously, looking for Quent Miles, but the spaceman was nowhere in sight. He had walked all the way around the hut and back to the air lock when he saw a movement out of the corner of his eye. It was Miles, returning to the space hut. Moving quickly, Roger ducked behind a huge boulder and waited for Miles to come closer. It would be impossible to hit Miles with the heavy wrench. The space helmet would ward off the blow. His only chance was to get aboard the ship while Miles was inside the hut. And he would have to move fast. When Miles discovered the hut was empty, he would come looking for the young cadet.

But to the cadet's great relief, Miles went past the hut and disappeared over the horizon of the asteroid in the opposite direction.

Slipping out from behind the boulder and utilizing the near lack of gravity, Roger ran in giant leaps toward the black spaceship. His last jump brought him to the base of the ship where he quickly clambered up the ladder, opened the portal, and slipped into the air lock. In a matter of seconds he had built up the pressure in the lock to equal the pressure inside the ship. He opened the inner portal and raced up the ladder to the control deck. Throwing himself into the pilot's chair, he prepared to raise ship. Then he slumped in despair. The master switch had been removed. It was impossible for him to blast off!

He leaped out of the chair and scrambled up the ladder to the radar deck. He flipped on the audioceiver and nervously waited for the tubes to warm up. Nothing happened. Only then he remembered that the communications would not work without power from the generators and they could not be started without the master switch.

"Boy! He sure wasn't taking any chances of me getting away and leaving him here," Roger muttered to himself, as he turned back to the ladder and climbed down to the air lock. He stepped inside, and crossing to the small viewport, looked out over the dead landscape of the tiny world for a sign of Quent Miles. He saw the black-clad spaceman returning toward the hut. Roger held his breath. If Miles went into the hut this time and found him missing, he would know that the cadet was aboard the ship. "Manning," Roger said to himself, "if you ever needed luck, you need it now!"

Miles walked slowly, as if in no hurry, still heading for the space hut. But as Roger held his breath in fear, he passed it again, without so much as

pausing to look at it.

Roger grinned. "Spaceman, you are going to say your prayers every night after this," he murmured.

The cadet turned, and racing as fast as the cumbersome space suit would allow him, headed toward the power deck. Passing the galley, he snatched up several plastic packages of food.

Down on the power deck, Roger went directly to the lead baffling shields around the reactant chambers and carefully squeezed between them and the outer hull. It was going to be a rough ride on the power deck, jammed in behind the firing chambers, but at least he was hidden—and more important, *free*.

He listened for the clank of metal shoes on the ladder above him. When he heard them, followed closely by the slam of the air-lock portal, he grinned in satisfaction. Opening one of the plastic bags, he began to eat.

In a moment the ship came to life and the power deck became a raging torrent of noise and vibration. As Roger braced himself, he felt the ship quiver and then shake, as under heavy acceleration, it blasted off into space.

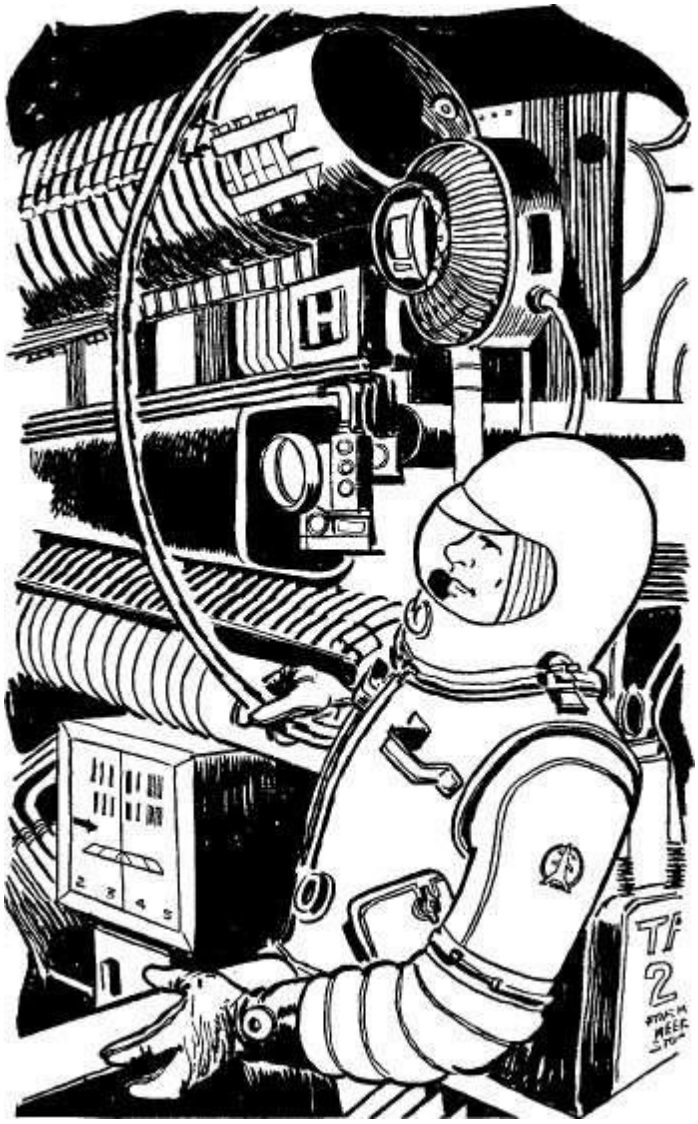
* * * * *

Captain Strong and young Sergeant Morgan hailed a passing jet truck loaded with Space Marines. "Get me to Commander Walters right away, Lieutenant!" said Strong to the young officer in charge. "This is an emergency."

"Yes, sir," acknowledged the young officer, and sent the truck roaring down the empty avenue toward the electronics building where Walters was still checking the reports on the screens.

"Is there anything new, sir?" asked the young officer. "Have the technicians been able to find out what's making the screens fail?"

"We're on the right track, Lieutenant," said Strong shortly. "Can't you get any more speed out of this thing?"



It would be a rough ride, but at least he was hidden

"Yes, sir," replied the officer. He rammed the accelerator to the floor and the small truck blasted through the streets as though shot out of cannon.

In a few minutes the truck screamed to a halt in front of the building and Strong leaped toward the door, followed closely by Sergeant Morgan and the Space Marine lieutenant.

Strong found Walters before the telemetering board waiting impatiently for some figures Dr. Joan Dale had sent him to be analyzed and evaluated. He spun around when Strong entered the room at a dead run.

"Steve!" he exclaimed. "What's the matter? Anything happen to the cadets?"

"We didn't find them, sir, but we did find something else. We—" Before Strong could finish, the calculator began pouring out its answers.

"Excuse me, Steve! These figures could tell us why the screens are failing."

"But I know why they're failing, sir!" shouted Strong.

"You know what?" exclaimed Walters.

As all the men in the room stared at him, Strong hurriedly told the commanding officer what he had found, concluding, "I think the room I stumbled into was used as a repair shop. But it was gas-free and pure oxygen was coming out of the pipe I described."

"I see," said Walters grimly. "Let me check that against these figures." He turned to the calculator and with the assistance of Joe Howard, Kit Barnard, and the chief electronics engineer began studying the figures.

Strong paced up and down nervously. The faces of the technicians in the room clearly showed the strain they had been under the past few days. And when they heard the startling news Strong had delivered, there wasn't one who didn't feel his fingers tighten into fists at Brett and Miles' selfishness.

Walters straightened up and glanced at the faces of the men around him. "Well, gentlemen," he said. "I think the figures speak for themselves."

There was a murmur of agreement. Walters turned back to Strong. "Those figures prove conclusively that what you say is true. It is impossible for the screens to collapse except from a vital leak—exactly such a leak as you have described."

Walters turned and began to snap orders to the men around him. "I want every available man sent out on the double. I want every inch of that area searched for an opening to a mine shaft or anything that leads underground. Take half the men off the spaceport detail."

"Shall we continue evacuation operations for the miners and their families?" asked the young Space Marine lieutenant. "There is quite a force of men out there that could be used in the search."

"What do you think, Steve? Should we take off the guardsmen and suspend evacuation in the hope that we can find that leak?"

"I would say yes, Commander," said Strong. "Your figures and those Dr. Dale sent you point to a leak of this nature."

"Very well, Lieutenant," said Walters. "Order every man to the area and begin search operations immediately. I want that leak found—and found fast! And I want Charles Brett and Quent Miles arrested at once!"

* * * * *

Tom and Astro bent over the lead boxes again and heaved them to their shoulders. A quick glance showed them that Miles had not followed them to the floor of the cavern as he had done before, but had remained on guard on the balcony.

As they struggled to lift the boxes to their shoulders, Tom whispered out of the side of his mouth, "I know how we can get out of here, Astro."

"How?"

"Since Brett is staying on the ship for this trip, Miles is going to have trouble watching both of us."

"Yeah, I know," muttered Astro. "Want me to jump him?"

"No," Tom growled. "Miles has been trailing us through the tunnel by twenty to thirty feet each trip. When we pass that spot where the light is, you drop your box. He'll be watching you then and that will give me a chance to grab that booby trap you took apart, remember?"

"Yeah!"

"O.K. Now remember, when I give you the word, you drop your box on the right-hand side of the tunnel."

"Hurry up down there!" yelled Miles from the balcony. "We haven't got all night."

"Keep your shirt on, buster," growled Astro. "We're tired."

The two cadets balanced the heavy lead boxes on their shoulders, and, with Tom leading the way, climbed up the stairs past Miles and started up the tunnel in front of the black-suited spaceman.

They walked slowly, side by side, and as before, Miles stayed a good twenty paces behind them. As they neared the light where they knew the explosive charge would be, Tom began slowing his pace.

"Come on, get going, Corbett!" Miles yelled.

"He's tired," said Astro. "Leave him alone."

"What are you, his protector?" snarled Miles. "Get going, I said."

"O.K.," said Tom, struggling forward.

They came closer and closer to the light. Tom glanced at Astro and winked. Astro winked back and braced himself to fake the accident.

As closely as Tom could remember, Astro had tossed the charge to one side about ten feet beyond the light. If he knew exactly where it was, he could fall forward on top of it and stuff it in his tunic. He tried to recreate the scene as it happened. They passed under the light. One step… two steps… three steps…

"Now, Astro," Tom whispered.

The big cadet lunged to one side, dropping the heavy box to the floor. At the same time, Tom dropped his box and lunged forward, arms outstretched, feeling along the floor for the precious explosives.

Miles ran up quickly, ray gun cocked and ready.

"Get up!" he shouted. "Get up or I'll freeze you both and leave you here!"

Tom and Astro struggled to their feet. They lifted the heavy boxes to their shoulders and started down the tunnel again.

When Astro dared a glance at Tom, he saw his unit mate grin and wink at him. Astro winked back. Suddenly it seemed that the heavy lead box was as light as air!

CHAPTER 17

The streets of Olympia echoed to the thunderous roar of jet trucks and jet cars racing to sector twelve. Miners, Solar Guardsmen, and Space Marines jammed the vehicles, their faces grim with determination as they prepared for an all-out attempt to prevent the death of the colony.

Walters, Strong, and Kit Barnard sat behind Blake, the Space Marine lieutenant, and Sergeant Morgan as they rocketed through the streets. There was little conversation, each man thinking bitterly of Charles Brett and Quent Miles. Walters had already foreseen the possibility of trouble with emotional miners and had ordered Blake to be personally responsible for the safety of Miles and Brett when they were arrested.

"They get a fair trial like anyone else," declared Walters. "And they are innocent until proven guilty by a jury."

Now, as he sat beside Strong, Walters wondered if they would be able to save the city from the ammonia gas. He had taken a calculated risk in ordering guardsmen at the spaceport to aid in this search. If they should fail to find the leak, and the gas death spread farther across the city, the miners and their families would be helpless before it. The thought of the riots that would ensue if the people tried to get aboard the spaceships without order made the hardened commander shudder.

The jet car slowed and finally stopped. "What's the matter?" growled Walters.

"This is as far as we can go in the car, sir," replied Blake. "The gas is so thick I can't see where I'm driving."

"Very well. Put on your masks," Walters announced. "Keep in contact with the spaceport control tower. They'll relay messages to me and my orders back to you. Let's go. Spaceman's luck."

The men opened the doors of the small jet car and stepped out into the swirling mists. Though there were more than a thousand men searching the area, they could not rid themselves of a strange feeling of loneliness as they each walked forward into the mists of death.

Strong and Walters inched their way down the street like blind men, feeling for each step with hesitant feet.

"Are you sure we're heading in the right direction, Steve?" asked Walters.

"Yes, Commander," replied Strong. "The warehouse is located about a half mile down this street."

"Of all the blasted messes," grumbled Walters. "We've got the finest radar

system in the universe and we have to walk along here feeling our way like blind men."

"There's no other way, I'm afraid," said Strong grimly.

"Are you still with us, Kit?" called Walters.

"Right here, sir," came Barnard's voice, immediately behind them.

The spacemen continued their slow march through the mist in silence. Once, when Walters stumbled and nearly fell, he roared angrily.

"By the craters of Luna, when I get my hands on those two space crawlers, there won't be enough of them left for a trial!"

"Yes, sir," said Steve. "But if anything has happened to those cadets, you'll have to excuse ranks, sir, and wait your turn."

"Of course!" Walters exclaimed a moment later. "That's what happened to Manning! He didn't run away. He must have gotten on to them during the trip out here and they shut him up."

"Exactly what I was thinking, sir," said Strong, and then suddenly stopped. "I just bumped into a wall. We're here."

* * * * *

Tom and Astro climbed wearily through the trap door into the room above the main shaft while Quent Miles watched them closely, keeping his paralo-ray gun leveled. The two boys hitched the heavy lead boxes into a more comfortable position on their shoulders and started toward the door leading outside. But neither boy thought of his discomfort or weariness now. With the explosive charge safely hidden under Tom's blouse, they had a chance to fight back. It was a small chance, perhaps, but at least a chance.

Outside, they walked slowly through the swirling methane ammonia and Tom edged closer to his unit mate.

"Can you hear me, Astro?" he whispered through the mask amplifier. The big cadet simply nodded, keeping his eyes forward.

"We'll have to bluff our way now," continued Tom in a low whisper. "This stuff has to be set off with a charge of electricity."

"Where do we get it?" mumbled Astro.

"The paralo-ray gun."

"You're space happy. It won't work."

"I know that," hissed Tom. "But maybe Miles doesn't. I'll challenge Miles, hold the stuff right in front of me, and warn him that if he fires he'll set off the explosive and blow the four of us up."

"Oh, brother. That's a bluff to end all bluffs! Suppose he doesn't bite?"

"Then get set to take another paralo-ray charge."

"O.K.," sighed Astro. "When do you want to try it?"

"I'll give you the word," replied Tom. "Just be ready." The cadet turned away quickly. "Watch it," he hissed. "He's suspicious."

The two boys plodded along across the field as Miles moved up closer. He stared at them for a long moment and then continued to walk along directly behind them.

When they reached the ship, Miles allowed them to rest and catch their breath before making the long climb up the ladder to the air-lock portal. Brett suddenly appeared in the open portal above them.

"Hey, Miles," he called, "is that the last of it?"

"Yes," Miles called back. "You get in touch with our pal?"

"Uh-huh. He's going to meet us out in space."

"In space?" Miles stared up at Brett with a strange gleam in his eye. "Why not the hide-out?"

"I don't know," Brett replied from above. "Let's not waste time talking now. Get those other two cases up here. I want to blast off."

Miles turned to the two cadets and waved his paralo-ray gun menacingly. "All right, you two. Get going!"

"Give us a few more minutes, Miles," said Tom. "We're so tired we can hardly move."

"Get up, I said," snarled the black-suited spaceman.

"I can't," whined Tom. "You'll have to give me a hand."

Miles pointed his gun straight at the young cadet. "All right. That means the big fella makes two trips and I freeze you right now."

"No, no!" cried Tom, jumping to his feet. "I can make it. Please don't freeze me again." Astro turned away to hide his smile.

Sneering his disgust at Tom's apparent fear, Miles prodded the cadets up the ladder. Tom went first, the heavy box digging into his shoulder. Astro followed, cursing the fog that prevented him from seeing where Miles stood below him so he could drop the heavy box on him.

Above them, Charles Brett watched them emerge out of the ammonia mist, ray gun held tightly in his hand. Tom climbed into the air lock safely and dropped the box on the edge of the platform, slumping to the deck beside it. Astro followed seconds later, and then Miles.

"Don't stop now," barked Miles. "Put those boxes below with the rest of them."

Tom got up slowly, leaning heavily on the outer edge of the precariously placed box. The box suddenly tilted and then slipped out of the air lock to disappear in the mist.

"Why, you clumsy—" Brett roared, raising his gun menacingly.

Astro stepped in front of Tom. "I'll get it," he cried. "Don't shoot!"

"Go on then," snarled Brett. "Go down with him, Miles. I'll stay here with Corbett."

"You go down with him," sneered Miles. "I've been up and down that ladder fifty times while you sat up here doing nothing."

"Is that so?" cried Brett angrily, turning to face the black-clad spaceman. This gave Tom the opportunity he was waiting for. He pulled the small charge of explosives from his tunic and held it in front of him.

"All right, you two!" he shouted. "Drop those paralo-ray guns. This is the booby trap you planted in the tunnel. You fire those ray guns and we all go up together."

Brett jumped back. Miles took a half step forward and stopped. "You haven't got the nerve," he sneered.

"Shoot and you'll find out," said Tom. "Go ahead! Shoot, if you've got the guts. Get down the ladder, Astro," he said. "They won't fire as long as I've got this in my hand."

Brett had begun to shake with fear but Miles brought his ray gun up slowly. He aimed it at Astro who was starting down the ladder, his head and shoulders still showing in the open air-lock portal. Tom saw what Miles was going to do. "Jump, Astro!" he shouted.

Astro jumped at the exact instant Miles fired. "Rush him," cried Miles. Brett made a headlong dash for Tom, but the cadet side-stepped at the last moment and Brett fell headlong out of the ship, wailing in sudden terror as he fell to the ground.

Miles turned to Tom. He ripped off his mask and with his free hand closed the air-lock portal.

"You fooled Brett, but you didn't fool me, Corbett." He laughed. "It takes a direct electric charge to set that stuff off. You just helped me get rid of a very obnoxious partner." He leveled his paralo-ray gun.

"I hate to do this," he said, "but it's you or me."

He fired. Tom was again frozen into that immobile state more dead than alive. Miles laughed and hurried to the control deck.

* * * * *

Astro got up on his knees slowly. Though the fall had been a hard one, he had rolled quickly with the first impact, thus preventing any injuries. He shook his head, regained his sense of direction, and then rose to his feet, starting back to the ship in hope of helping Tom. He tripped over something and fell to the ground. Groping around in the thickening ammonia gas he felt the still form of a body. For a moment, thinking it was Tom, his heart nearly stopped, and then he breathed a silent prayer of thankfulness when he recognized Charley Brett. He felt the man's heart. There was a faint beat.

Astro opened the valve on Brett's oxygen mask wide and waited until the man was breathing normally. Then he began feeling his way back to the ladder. Suddenly he heard a sound that made his blood run cold. It was the

unmistakable whine of the cooling pumps building for blast-off. And he was directly underneath the exhaust tubes.

He scrambled away, heading back to the spot where Brett lay. The whining of the pumps built to an agonizing scream. There were scant seconds left to save himself. He could not wait to find Brett. He began running wildly away from the ship, stumbling, failing, rising to his feet again to plunge on, away from the deadly white-hot exhaust blast of the *Space Knight*.

There was a terrific explosion, and then Astro was lifted off his feet and hurled through the mist, head over heels. He screamed and then blacked out.

* * * * *

"We found him about a thousand yards away from the warehouse, Commander," said the guardsman. "He looks pretty beat and his clothes are burned a little. I think he must have been caught in the blast of that ship we heard take off."

Walters looked down at Astro's big frame, sprawled on the ground, and then at the medical corpsman who was giving him a quick examination. The corpsman straightened up and turned to Walters and Captain Strong. "He'll be all right as soon as he wakes up."

"Shock?" asked Strong.

"Yes. And complete fatigue. Look at his hands and knees. He's been doing some pretty rough work." The corpsman indicated the big cadet's hands, skinned and swollen from his labor in the mines.

"Wake him up!" growled Walters.

"Wake him up!" exclaimed the corpsman. "Why, sir, I couldn't allow—"

"Wake him up. And that's an order!" insisted Walters.

"Very well, sir. But this will have to go into my report to the senior medical officer."

"And I'll commend you for insisting on proper care for your patients," Walters stated. "But in the meantime we've got to find out what happened. And Cadet Astro is the only one who can tell us."

The corpsman turned to his emergency kit. He took out a large hypodermic needle, filled with a clear fluid, and injected it into the big cadet's arm.

In less than a minute Astro was sitting up and telling Walters everything that had happened. When he told of the pipe that was sucking off the oxygen from the main pumps, Walters dispatched an emergency crew to the mine immediately to plug the leak. Then, when Astro revealed the secret of the mine, the presence of the uranium pitchblende, Walters shook his head slowly.

"Amazing!" he exclaimed. "Greed can ruin a man. He could have declared such a discovery and still had more money than he could have spent in a lifetime."

Walters spun around. "Steve, I want the *Polaris* ready to blast off within an hour. We're going after one of the dirtiest space rats that ever hit the deep!"

CHAPTER 18

Roger peered around the edge of the baffling shields. The power deck was empty. He edged out and stood upright, eyes moving constantly for signs of Miles.

No longer needing the cumbersome space suit, he stripped it off and walked across the deck to the ladder. He stopped to listen again but there was only the sound of the rockets under emergency space drive. A quick glance at the control panel told him that the ship was hurtling through space at a fantastic speed. Satisfied that Miles was nowhere near, Roger gripped the rocketman's wrench tightly and began climbing slowly and cautiously.

When he reached the next deck, he raised his head through the hatch slowly. Then, in one quick movement, he pulled himself up on the deck and ran for cover behind a small locker to his right. Above him, through the open network of frames and girders, he could see the control deck, but Miles was nowhere in sight.

Something on the opposite side of the ship caught his eye. Miles' space suit hung on its rack, the heavy fish-bowllike space helmet beside it in its open locker. Roger's heart skipped a beat as he noticed the holster for a paralo-ray gun nearby. But the large flap was closed and he could not see if it held a gun.

Slowly and cautiously he began climbing

The young cadet moved away from the protection of the locker and started toward the space suit. He moved slowly, watching the upper deck where he figured Miles would be at the control board, operating the ship.

Suddenly Miles appeared above him, walking across the open control deck with a clip board in his hand, making a standard check of the many instruments. Before Roger could find a hiding place, Miles saw the cadet. He drew his paralo-ray gun quickly, firing with the speed of a practiced hand. Roger dove toward the space suit and wrenched open the holster but found it empty. Miles was behind him now, running down the ladder.

Roger spun around, darted to the ladder leading to the power deck, and just missed being hit by Miles' second shot. He jumped the ten feet to the power deck and darted behind the huge bank of atomic motors.

Miles came down the ladder slowly, gun leveled, eyes searching the deck. He stopped with his back to the rocket motors and called, "All right, Manning, come on out. If you come out without any trouble, I won't freeze you. I'll just

tie you up again."

Roger was silent, gripping the wrench tightly and praying for a chance to strike. Miles still remained in one position, protected by the motor housing.

"I'm going to count five, Manning!" he shouted. "Then I'll hunt you down and freeze you solid."

Gripping the wrench tightly and raising it above his head, Roger eased out from his hiding place and slipped across the floor lightly. He was within four feet of Miles when the black-suited spaceman spun around and stepped back quickly. "Sucker," he snarled, and fired.

Roger stood motionless, his arm still raised, the wrench falling to the deck. Miles stuck his face close to Roger's head and said, "I don't know how you got here, but it doesn't make any difference now. In a little while you and your pal, Corbett, are going for a swim out in space."

Holding Roger by the arm, he tipped the boy over and lowered him to the deck. Roger's arm stuck up like the branch of a tree. Miles stood over him, flipped on the neutralizer charge of the gun, and fired again, releasing Roger from the paralyzing effect of the ray.

The young cadet began to shake violently and through his chattering teeth he muttered a space oath. Miles only grinned.

"Just wanted you to make yourself comfortable, Manning," he said. He flipped the gun to direct charge again and pointed it at the boy. Seeing it was useless to try and jump the burly spaceman, Roger relaxed and stretched out on the deck. Miles fired again calmly, and after testing the effect of the ray with his toe, he turned to the ladder.

As the spaceman climbed back to the control deck, Roger, though in a paralyzed state, could hear the communicator loud-speaker paging Miles.

* * * * *

"Come in, Quent! This is Ross! Come in!"

Tom Corbett sat bound and gagged in the copilot's chair of the black ship, listening to Miles call again and again over the audioceiver. The fact that Miles was identifying himself as Ross puzzled the young cadet and he wondered if it was an alias. Tom was even more puzzled when Miles addressed the person he was calling as Quent.

"This is Ross! Acknowledge, Quent! Come in!"

Static spluttered over the loud-speaker and then a clear, harsh voice that was a perfect imitation, answered, "I read you, Ross," it said. "Where are you?"

Tom watched as Miles made a hasty check on the astrogation chart. "Space quadrant four," he replied. "Chart C for Charley! Where are you?"

"Same space quadrant, but on chart B for Baker," came the reply. "I think we can make visual contact on radar in above five minutes. Make the usual radar signal for identification. O.K.?"

"Good!" the *Space Knight* pilot replied. "What course are you on?"

There was a pause and then the voice answered, "South southwest. Speed, emergency maximum."

"Very well. I will adjust course to meet you. But what's the hurry?" asked Tom's captor.

"Better get out of space as soon as possible."

"Yeah, I guess you're right."

Tom listened intently. He closed his eyes and tried to visualize the charts and space quadrants he had heard mentioned. He knew the quadrants by heart, and knew that he was close to the asteroid belt. But each quadrant had at least a dozen or more charts, each one taking in a huge area of space.

"Is Brett with you?" asked the voice over the audioceiver.

"No. I'll tell you about it when we get together. All the rockets in space broke loose up there on Titan for a while."

"What do you mean? Hey! I think I just picked you up on my radar!" said the voice over the loud-speaker. "Give me the identification signal."

Tom watched Miles go to the radarscope and make a minute adjustment. The voice came over the loud-speaker again. "That's you, all right. Cut back to minimum speed and I'll maneuver to your space lock."

"Very well," replied the spaceman on the *Space Knight*.

He cut the rockets and in a matter of minutes the ship was bumped heavily as contact was made. The voice over the communicator announced the two space vessels had been coupled. "Open your air lock and come aboard."

"You come aboard my ship," said Miles. "We've got the stuff here."

"O.K. But I have to go below and wake up that jerk, Manning."

"Wake him up?"

"Yeah. I got him frozen."

"All right, make it snappy."

Miles turned to look at Tom, a sneer on his face. "I'm giving you a break, Corbett," he said. "You're going to swim with your cadet buddy. You'll have company!"

Gagged, Tom could only glare his hatred at the black-suited spaceman. In a moment he heard the air lock open below and then footsteps clattered up the ladder to the control deck.

The hatch opened and Roger stumbled inside. He saw Tom immediately and yelled, "Tom! What are—" Suddenly he stopped. He looked at the man standing beside Tom and gasped in astonishment.

Tom watched the hatch as Roger's captor stepped inside. What he saw made him twist around in his chair and stare at the man beside him, utterly bewildered.

"*Twins!*" cried Roger. "Identical twins."

The man stepped through the hatch and walked over to his brother. They shook hands and slapped each other on the back.

"What happened to Charley, Ross?" asked Quent Miles.

"Just a minute, Quent," replied his brother. He turned and grinned at Tom and Roger. "Surprised, huh? Don't let it bother you. We've been driving people crazy ever since we were born. Does this tell you how we won the race?"

"T-t-twin pilots," stuttered Tom in amazement. "And twin ships?"

"Exactly." Ross laughed. "Pretty smart, eh?"

"Never mind them now," snarled Quent. "I've been sitting up there on that asteroid rock talking to myself. What happened to Charley?"

"Take it easy, will you, Quent?" said Ross. "I want to have some fun." He turned to Manning. "Untie Corbett and get on the other side of the deck. Have yourselves a nice long talk before you take your last walk."

Roger slowly bent over to untie Tom, muttering a space oath under his breath. The two brothers retired to the opposite side of the control deck and sat down. Ross kept his paralo-ray pistol in his hand and never once took his eyes off the two cadets.

"Well, what happened?" demanded Quent. "What are you doing here with Corbett and where in the blazes is Charley?"

"Charley is back on Titan, and probably dead," replied Ross easily. "He wouldn't pay any attention to us when we suggested plugging up the old tunnels when we started mining that uranium, so the oxygen which we were sucking off from the main screen supply took too much. The screens started to go. Practically the whole city is flooded with ammonia gas and it's being abandoned."

Roger and Tom stood quietly, listening, and when Roger heard the news he turned to Tom with a questioning look on his face. Tom merely nodded grimly.

"But what are you doing here with this load of pitchblende?" Quent persisted.

"Everything would have been all right, even with the screens letting go," explained Ross, "if it hadn't been for Corbett and that big jerk Astro. They followed me out to the warehouse and down into the mine. Good thing we caught them, or we'd be on our way to a prison asteroid right now."

Quent glared over at Tom. "And Charley spilled the beans about the whole thing, eh?"

"Not exactly, but the Solar Guard knows enough to be suspicious," replied Ross. "We had some trouble with the radiation-detection gear and wanted to haul it out to the hide-out for Manning to check. We decided to bring out as much of the stuff as we had mined, and when we caught Corbett and Astro snooping around, we made them load the ship. Corbett, here, got smart and Astro escaped. In the fight, Charley fell out of the ship. I don't know if he got away or not."

"Do we have a whole shipload of the stuff?" asked Quent.

Ross grinned. "About two million credits' worth."

Quent rubbed his hands together. "We're in clover." He laughed and slapped his brother on the back. "Well, I suppose the Solar Guard is looking for us by now?"

Ross grinned. "Right. So we pull the old trick, eh? We have two very likely prospects right there." He pointed to Roger and Tom.

"What is that supposed to mean?" snapped Roger.

"You'll find out, squirt," sneered Quent Miles.

"Wait a minute, Quent," said Ross. "I just thought of something. No one knows there are two of us, except these two punks here. We can't work the old gag. We can only use one of them."

"How do you mean?"

"Simple. The Solar Guard thinks Manning took it on the lam from Ganymede, right?"

Quent nodded.

"Well, we take Manning, dress him up in one of our outfits and stick him aboard the empty ship alongside. The ship blows up, and should they find anything of Manning, he'll be dressed like you, or me, and that will end the situation right there. Later, we can dump Corbett out in a space suit with a little oxygen, and write a note, sticking it in his glove. When they find him, they'll think he got away from Quent Miles, and when his oxygen gave out, wrote the note giving all the details. And who can say No, since Quent Miles, as such, will be dead?"

"End to the affair!" shouted Quent. "That's perfect."

The audioceiver behind them crackled into life, and there was a clear, piercing signal, a sign that an emergency transmission was taking over all channels. The signal continued until the clear, strong voice of Commander Walters flooded the control deck of the ship.

"Attention! Attention! This is Commander Walters of the Solar Guard! Attention all Solar Guard units in space quadrants one through seven—repeat, all ships in quadrants one through seven. This is emergency alert for the rocket ship *Space Knight*, believed to be heading for the asteroid belt. All ships are to institute an immediate search of quadrants one through seven for the *Space Knight* and arrest any and all persons aboard. Repeat. All ships…"

Ross Miles rose up and snapped off the audioceiver. "Come on. We've got to get out of here!"

"What about them?" asked Quent, pointing to Roger and Tom. "Will we have time to—?"

"Plenty of time," said Ross coldly. "Blast 'em now."

"With pleasure," replied Quent Miles, taking his gun from his holster.

"Jump, Roger!" shouted Tom.

Both boys threw themselves sideways as Miles leveled his gun.

Tom plunged headlong through the hatch door and scrambled down the

ladder. Roger tried to follow, but Quent fired as Roger started to jump feet first through the hatch. His body became rigid as he tumbled through the hatch. Tom looked up just in time to break his unit mate's fall, but seeing that it would be useless to stay with him, left him on the deck and turned to flee through the depths of the black ship.

CHAPTER 19

"Never mind, Manning!" shouted Quent Miles as he jumped past Roger's body. "We've got to find Corbett. Take the starboard ladder; I'll take the port. Search all the way aft to the exhaust tubes if you have to!"

Ross nodded quickly, hefted his ray gun, and moved down the opposite ladder.

Tom watched both of them come down like twin devils, hands holding the ray guns as steady as rocks. The cadet hid behind the open door leading to the lower cargo holds. Ross was the nearer of the two, walking like a cat, slowly, ready to spring or fire at the slightest movement. Tom quickly saw that if he jumped Ross, Quent would be on him in seconds. His only chance lay in their passing him, giving him the opportunity to return to the control deck and search for a ray gun for himself. And if that failed, at least he could call Commander Walters.

Ross crept closer. Tom crouched tensely. Should Ross see him, Tom would have to make an attempt to knock him out and get the ray gun before Quent could do anything.

"Careful, Quent!" called Ross as he moved toward the open hatch.

"You too," replied his brother. "This kid is plenty smart."

Tom breathed a silent prayer. Ross was now opposite the door. Should the black-suited spaceman decide to look behind it, Tom would be at his mercy.

Ross stopped beside the door and hesitated a moment.

"Hey, Ross!" Quent called, and Ross turned away from the door. "I think I hear something down inside the hold. Slip down the ladder a little way and cover me. I'll go down inside and look around. He must be down here somewhere, and if you guard the door, he can't get out."

Ross grinned. "Like flushing quail in Venus jungles," he said, moving away from the door and down into the hold where the lead boxes filled with uranium pitchblende were stored.

Tom could scarcely suppress a loud sigh of relief at his narrow escape. After a moment he peered cautiously around the edge of the door, and seeing the way clear to the control deck, ran back to the ladder. He paused at Roger's inert form and bent over, his lips close to the paralyzed cadet's ear.

"I'm going to try and find a ray gun," he whispered quickly. "If I can't, then I'm going to try and get in touch with Commander Walters or the Solar Guard patrols."

He patted the blond-haired cadet on the shoulder and raced up the ladder to

the control deck. Once inside, he barred the door to the rest of the ship and began a frantic search of the many lockers and drawers. But it was fruitless. He could find no ray gun or weapon of any kind. Desperate, knowing that Ross and Quent would return to the control deck when they had searched the rest of the ship, Tom turned and scrambled up the ladder to the radar deck.

Again, barring the door behind him, he sat before the audioceiver and began calling the *Polaris*.

"This is Cadet Corbett aboard rocket ship *Space Knight* in quadrant four, chart C for Charley. Corbett aboard spaceship *Space Knight* in quadrant four, chart C for Charley! Come in, Commander Walters! Come in!"

Tom spun the dials on the audioceiver desperately, ranging over every circuit and repeating his cry. "This is Cadet Corbett! I am being held prisoner with Cadet Roger Manning aboard the spaceship *Space Knight* in space quadrant four, chart C for Charley…"

Suddenly the hum of the generators stopped and the glow of the tubes in the audioceiver died. Without a second's hesitation, Tom spun around and lunged for the door leading back to the control deck.

"They must have shut off the power," he decided. "When they didn't find me down below, they guessed that I came this way."

He raced through the control deck and down the ladder to the starboard companionway. If he could only get to the ship alongside!

He chided himself for not thinking of it before and darted toward the air lock that coupled the two ships together in space.

He turned a corner in the companionway and saw the door to the coupling chamber ahead. It was open. He dashed inside.

"Greetings, Corbett!" sneered Ross Miles. He stood just inside the doorway, the ray gun leveled at Tom.

"We figured you'd get around to thinking about the other ship sooner or later," said Quent behind him, jamming the ray gun in his back. "So we just came here and waited for you."

"Go get the other one, Quent," said Ross. Jerking Tom sideways into the coupling chamber, he rammed his gun into the curly-haired cadet's stomach. "I'll get this guy fixed aboard the other ship, and then set the firing chambers so they'll blow up."

"What are we going to do with Manning?" asked Quent.

"We'll figure that out later. Hurry up! Corbett probably called the Solar Guard."

"That's right, I did, Miles," said Tom. "They're probably closing in on you right now."

"Is that so?" snarled Quent. "Well, it's too bad you won't be alive to say hello to them."

* * * * *

"I want every pound of thrust you have on that power deck, Astro," roared Commander Walters into the intercom. "We just received word from a freighter that picked up an S O S from Tom aboard the *Space Knight*."

Steve Strong and Kit Barnard sat in the pilot and copilot's chairs on the control deck of the *Polaris* and watched the needle of the accelerometer climb as Astro poured on the power in answer to Walters' command.

"If I know Astro," said Strong, "you'll probably get the fastest ride you've ever had short of hyperdrive, Kit."

Kit Barnard gulped as he watched the needle. "I see what you mean," he said.

Walters strode up and down the deck behind the two veteran spacemen, a scowl on his face. "By the stars," he rumbled, "this is the most incredible thing I've run up against in all my years in space!"

He paced up and down several times silently. "To think that two men could —*would*—jeopardize the safety and lives of thousands of people for—a—a uranium mine! It's beyond my comprehension."

"Excuse me, sir," said Sid, Kit Barnard's young assistant, coming down the radar-bridge ladder. "This report just came in from Titan spaceport control."

Walters took the message and read it quickly. He grunted and handed it to Strong. "They've found the mine and the leak," he said. "The screens are working again."

"Then you'll call off the evacuation operations, sir?" asked Strong.

"Right." Walters turned to Sid. "Son, send a message back to Titan control and tell Captain Howard to stop all evacuations as soon as he has enough oxygen to provide for the citizens of Titan. And then stand by for a general order to all units in this area."

"Yes, sir," said Sid, climbing back up to the radar bridge quickly.

The three men on the control deck fell silent as the ship hurtled through space. Each of them prayed silently for Tom and Roger's safety.

On the power deck below, Astro opened every valve and adjusted the firing chambers to their emergency maximum, forcing the giant ship faster and faster through space. And when he had done all he could, he paced up and down the deck, snapping a greasy wiping rag against his thigh again and again. His face showed the concern he felt for Tom and Roger, and at the same time, there was a questioning look in his eye. The auxiliary loud-speaker of the audioceiver overhead spluttered with static. He stopped to listen.

"This is Lieutenant Frazer aboard the Solar Guard cruiser *Hydra* to Commander Walters!" crackled an unfamiliar voice. "Come in, Commander Walters!"

Astro stared at the loud-speaker and held his breath.

"This is Walters on the *Polaris*. Go ahead, Frazer!"

"I am in command of a squadron of ships on space maneuvers in quadrant

five, sir. Shall I abandon my orders and proceed under your general emergency alert to search quadrant four?"

"How many ships do you have with you, Lieutenant?" asked Walters.

"Three heavy cruisers and a rocket destroyer, sir," replied the voice across the gulf of space. "And I am fully armed, sir."

"Proceed to quadrant four, Lieutenant, and seize the vessel *Space Knight*." There was a pause, and then Astro's blood ran cold as he heard the words, "and if necessary open fire!"

On the control deck, Captain Strong turned to Walters quickly. "But Tom and Roger, sir," he protested.

Commander Walters glared at Strong and turned back to the audioceiver. "Proceed to quadrant four," he said coldly. "Seize the vessel *Space Knight*, and if there is any resistance, open fire!"

* * * * *

"Did'ja hear that!" yelled Quent on the control deck of the *Space Knight*.

"Proceed to quadrant four and seize the Space Knight!"

"I heard," replied Ross grimly. "With a whole squadron sweeping this quadrant we won't make it."

"What are we going to do?" asked Quent.

"We're staying right here."

"What?"

"Right here," said Ross. "Get Corbett off the other ship and set the fuses in the firing chambers to blow up after we cast off."

"But I don't see—"

"Don't ask questions!" snapped Ross. "Do as I tell you."

"O.K." Quent spun away and headed for the coupling locks that held the two ships together. Ross turned back to the ladder and flipped his ray gun on neutralizing charge, releasing Roger from the effects of the paralo ray.

The blond-haired cadet staggered to his feet shakily. "Where's Tom?" he said, clenching his teeth to keep them from rattling. "If you've done anything

to him—!"

"Take it easy, Manning," growled Ross. "Just get up on the control deck and behave."

Roger glared at the spaceman, and realizing it would be useless to jump him in his weakened condition, started up the ladder. Ross followed at a careful distance.

A few minutes later Quent appeared on the control deck, forcing Tom ahead of him. "All right," he growled. "What do I do now?"

"Did you cast off the other ship?" asked Ross. And when Quent nodded, he jerked his head toward Tom and Roger and barked, "Cover them!"

As Quent stood before the two cadets, his gun leveled, Ross strode to the audioceiver and flipped it on. "This is Quent Miles to Commander Walters aboard the *Polaris*," he called. "Come in, Walters."

Tom and Roger looked at each other, puzzled.

"If you can hear me, Walters, this is Quent Miles. I'm surrendering to you. And you alone! Call off your squadrons and come alongside in the *Polaris* by yourself. If you hear me, Walters, you better do what I say, or you'll never see Manning and Corbett again." He flipped the audioceiver off and grinned at his brother. "When Walters comes aboard, he's going to get a nice surprise."

"Like what?" demanded Tom.

Ross grinned wickedly, looking very much like the devil incarnate. "You heard Walters' order to open fire, didn't you?" he said. "It seems that Space Cadets aren't worth much as hostages. But what do you think it will be like with a full-fledged commander in our hands, eh? And a rocket cruiser like the *Polaris* to run around in."

"You wouldn't dare kidnap Commander Walters!" exclaimed Tom.

"Oh, no." Ross laughed. "Listen, punk, with a murder charge hanging over our heads, and a couple of million credits' worth of pitchblende in the holds, both of us would do anything! And don't you forget it!" He turned to his brother. "Come on over here, Quent, and I'll tell you what we're going to do."

When the two spacemen were out of earshot, Tom turned to Roger. "How do you feel, Roger?"

"As if I'm going to shake myself apart," replied the radar-deck cadet, his teeth still chattering from the effects of the paralo ray.

"Well, hold on just a little bit longer, boy, because the next few minutes might spell the difference between getting out of here and—"

Tom was cut off by a sudden blast from the loud-speaker of the audioceiver.

"This is Commander Walters!" came a clear voice. "I accept your proposal, Miles. But I warn you, if anything has happened to those boys—"

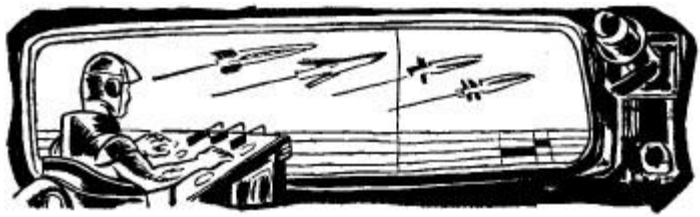
"No, Commander!" yelled Tom. "It's a trap!"

"… you will suffer for it," the voice continued.

"No use, Tom," said Roger. "The set was only on reception."

The two boys looked at each other and then across the control deck to the

grinning faces of the twins, Quent and Ross Miles.



CHAPTER 20

"Ease her up a little more, Steve!"

Commander Walters stood at the viewport watching the mighty *Polaris* slide alongside the black ship toward the coupling devices that would lock the two ships together in space.

"A little more!" said Walters. "About twenty feet!"

"Short burst on the main jets!" Strong called into the intercom.

"Aye, aye!" shouted Astro from below.

The giant ship inched along, the skins of the two ships barely touching.

"That's it!" shouted Walters. "The magnetic coupling links are in place. We're locked together!" He turned to Strong and Barnard. "Secure ship and come with me."

"Are you going to leave anyone on the ship, sir?" asked Strong as he cut all power.

"No, I want everyone with me," replied Walters. "No telling what Miles might try. As soon as we get aboard, spread out and search the ship. Find Tom and Roger if you can and then come up to the control deck."

"Aye, aye, sir," acknowledged Strong.

Walters turned to the audioceiver and spoke sharply into the microphone. "This is Walters, Miles. We're alongside and preparing to board your ship. I warn you not to try any tricks. I've accepted your surrender and hold you to it on your honor as a spaceman!" He paused, waiting for acknowledgment, then called again. "Are you there, Miles?"

There was a crackle of static over the loud-speaker and Miles' voice rang out on the control deck of the *Polaris*. "I'm here, Walters. Come on aboard!"

Walters turned to Strong and Kit. "Let's go. You know your jobs, so search the ship and report on the control deck." He strode toward the coupling locks that held the two ships together in space.

Aboard the black ship, Quent and Ross Miles smiled at each other. "You know what to do, Quent?" said Ross.

The brother nodded. "All set!" he said.

"Get going then. And don't make a move until you hear me draw their attention!"

"Right!"

The two brothers shook hands and Quent turned away, hurriedly leaving the control deck. Ross walked over to Tom and Roger, who watched the scene with anxious eyes.

"I really hate to do this, boys," he said, "but as you can see, things are pretty tight!" With that, he suddenly brought the butt of his ray gun down hard on Roger's head. The blond-haired cadet slumped to the floor. Tom leaped at the spaceman, but before he could close with him, Ross stepped back quickly and brought the gun down sharply on his head. The cadet slumped to the deck.

Quickly Ross propped them up against the bulkhead. Then, after a fast look around the control deck for any last thing he might have forgotten, he walked casually over to the control station and sat down. Seconds later Walters and Strong stepped inside.

"I arrest you for murder, willful destruction of Solar Guard property, and illegal operation of a uranium mine, Quent Miles!" said Walters. The spaceman shrugged and said nothing.

Strong bent over the unconscious forms of the two cadets and tried to bring them to, but they failed to respond.

"Better leave them alone, Steve," said Walters. "We have to get a medical officer for them. They look as if they've been bumped pretty hard."

Strong stood up abruptly and walked over to Miles, who lounged casually in his chair. Ignoring Walters, the Solar Guard captain stood in front of the black-suited spaceman, his jaw within an inch of the other man's face.

"If anything serious has happened to those two boys, Miles," he said in a cold, flat voice, full of menace, "I'll tear you apart!"

Miles paled for an instant and then grinned uneasily. "Don't worry about it, Strong. They're pretty tough kids."

Kit Barnard suddenly burst into the control room. "I've searched the cargo holds, Commander," he said. "Nothing there but lead boxes. Didn't find the boys—" Barnard stopped suddenly at the sight of the two unconscious cadets. "Tom! Roger!" he cried.

"They were slugged, Kit," said Strong. "You go back to the *Polaris* and send out an emergency call. Find the closest ship with a medical officer aboard and arrange for a meeting out here in space. We'll be ready to blast in five minutes."

"O.K., Steve," replied Kit, turning to the door and then stopping to glare at Miles. "And save a piece of that space rat for me!"

Under Barnard's steely look, Miles rose to his feet and stepped back hesitantly. Then, suddenly, he jumped up on the chair, scrambled to the top of the master control panel, and crouched there tensely.

Strong, Walters, and Kit were momentarily stunned by his strange action. It seemed like a senseless and futile effort to get away. There was no way Miles could get out of the control deck or off the ship.

Beyond the reach of anyone on the control deck, Miles began to laugh.

Walters turned beet red with anger. "This is stupid, Miles!" he roared. "You can't get away and you know it!"

"That all depends on where you're standing, Walters!" said a voice from the hatch.

The three spacemen whirled at the sound of the voice and were dumfounded by the appearance of Quent Miles, standing to one side of the hatch, holding an automatic paralo-ray rifle, trained on them.

"Stay right where you are," he said softly. "The first man that moves gets frozen solid!"

Walters, Strong, and Kit were too stunned to make a move. They could only stare in open disbelief at Quent Miles.

"Come on down, Ross!" called Quent. "And if anyone tries to stop him, I'll let all three of you have it!"

Ross climbed down from the control panel and stripped the three helpless spacemen of their weapons. He threw them out of the hatch and then went to stand by his brother. As they stood side by side, Strong and Walters couldn't help but gasp at the identical features of the two men.

"You can never hope to get away, either of you," growled Walters, when he finally regained his composure.

Quent laughed. "We're doing more than just hope, Walters."

"Just for your information," Ross chimed in, "we're changing ships and taking the cargo with us." He backed toward the hatch slowly. "Come on, Quent." The two brothers stepped back through the doorway, Ross keeping his rifle leveled at the three men.

Safely outside, Quent slammed the heavy door closed. Then, with a rocket wrench, he worked on the outer nuts of the door used in emergency to seal off the ship by compartments.

"All set!" said Quent, stepping back. "They can't get out now until someone comes and loosens up those nuts."

"Get down below and start transferring that cargo to the *Polaris*," ordered Ross, slinging the rifle over his shoulder. "I'll get on the audioceiver and tell that cruiser squadron to go back."

Quent laughed. "You know, Ross, this is terrific," he chortled. "We not only get away, but we get ourselves a Solar Guard rocket cruiser. Nobody'll be able to touch us in that ship."

"Nobody but me, Miles!" said a voice behind them. The two brothers spun around to see Astro, stripped to the waist, a heavy lug wrench in his hand, legs spread apart, ready to spring.

"Had me fooled there for a while, Ross!" he growled. "I saw your brother back at the Academy and thought it was you. But he didn't have the split ear lobe, the one I gave you. Remember?"

Ross slowly reached for the rifle that was slung over his shoulder.

"Don't do it, Ross!" warned Astro. "Get your hands off that rifle or I'll ram this wrench down your throat!"

Ross lowered his hand again slowly.

"Who is this guy, Ross?" asked Quent, licking his lips nervously. "How does he know about us?"

Ross kept his eyes on Astro, glaring at the cadet in hot fury. "I met him on a

deep spacer, five years ago, when you were laid up in the hospital," he said between his teeth. "This punk was a wiper on the power deck. I was his petty officer."

"We got into a fight," snarled Astro, "when he wanted to send me into a firing chamber without letting it cool off first."

"There are two of us now, Astro!" said Ross.

Astro nodded slowly. "That's right. Two of you!" Suddenly he dove toward the two men, arms outstretched. With one mighty swipe of the wrench he knocked Quent unconscious. Ross was hurled against the bulkhead by the impact but managed to stay on his feet. Desperately he tore the paralo-ray rifle from his shoulder, but before he could level it, Astro was upon him, wrenching it out of his grasp. Pushing Ross away, he calmly broke it in two and threw the pieces to one side. Then he faced the black-clad spaceman squarely.

"I was a kid when I first saw you, Ross," he said between his teeth. "So you had me fooled like everyone else. When your brother showed up at the Academy with his ears in good shape, I thought it was a curious coincidence two guys should look so much alike. And on Titan, when you had me hauling up those boxes, you wore your hat all the time, along with the oxygen mask, so I didn't think anything of it. But now I know!"

All the while Astro talked, the two men circled each other like two wrestlers, each waiting for his opponent to make a mistake.

"So you know!" sneered Ross. "All right, wiper, come on!"

The black-suited spaceman suddenly dove straight at Astro and the cadet caught the full force of his body in his stomach. He sprawled on the deck, gasping. Miles was on top of him in a second, hands at Astro's throat.

Fire danced in the cadet's brain as Ross Miles' steely fingers closed around his windpipe. Slowly, with every ounce of strength he had in his body, Astro grasped Miles' wrists in his hands and began squeezing. The fingers around the muscular wrists were the fingers of a boy filled with hate and revenge. Slowly, very slowly, as the seconds ticked away and the wind whistled raggedly in his throat, Astro increased the enormous pressure.

Now he felt the fingers around his throat begin to relax a little, and then a little more, and he kept tightening the pressure of his mighty hands. Expressions of surprise and then pain spread across Miles' face and he finally relaxed his grip around Astro's throat. He struggled to free himself from the viselike grip but it was hopeless.

Astro continued to apply pressure. He forced Miles up from his chest and then up on his feet, never relenting. Miles' face was now twisted in agony.

They stood on the deck, face to face, for almost a minute in silent struggle. There seemed to be no end to the power in the cadet's hands.

Suddenly Ross Miles slumped to his knees and sprawled on the deck as Astro let him go. The black-clad spaceman had fainted.

* * * * *

"They got a couple of hard bumps, but they'll be all right," announced the medical officer, straightening up. "But that man outside, Ross Miles, is going to stand trial with a broken wrist!" He turned to Strong. "What do you feed these cadets?"

Strong smiled and replied, "These are special types we train to take care of space rats!"

Tom and Roger lay stretched out on emergency cots set up on the control deck of the *Polaris*. They grinned weakly at Astro, who hovered over them solicitously.

"This is the first time we've ever wound up an assignment on our backs, you big Venusian hick!" said Roger. "And I suppose I'll have to thank you for saving my life!"

Astro grinned. "Wasn't much to save, Roger."

"Listen you!" Roger rose on one elbow, but the medical officer pressed him gently back on the cot.

"Did you ever find out how Bill Sticoon's ship was sabotaged, Captain Strong?" asked Tom.

"We sure did, Tom," said Strong. "One of Brett's confederates slugged the Solar Guard officer in charge of monitoring the race on Deimos and took his place. If it hadn't been for a brash stereo reporter that kept taking pictures of everything and everyone, the impersonator wouldn't have been caught."

"And to think that I wanted to give that reporter a few lumps!" Tom exclaimed.

"Did you find out anything about the crash of Gigi Duarte's ship, sir?" asked Roger.

"Yes. Ross confessed that he was in Luna City and planted a time bomb on Gigi's ship when the French Chicken came in for refueling."

"Say," exclaimed Roger, "I just happened to think! With Miles disqualified, Kit wins the race!"

Seated in the pilot's chair, Kit turned to Roger and waved a paper. "Here's the contract, Roger. Signed, sealed, and with only the crystal to be delivered."

"There's only one thing bothering me now," sighed Tom.

"What's that, Tom?" asked Strong.

"Do you think I could get a three-day pass before we go back to class at the

Academy?"

Strong and Kit looked at each other, puzzled. "With sick leave, you'll have plenty of time," said Strong. "Why a three-day pass especially?"

Tom settled deeper into the cot. "Well, sir," he said, grinning, "I figure it'll take just about three days for Astro and Roger to argue it out about who did the most to catch Ross and Quent Miles. And I don't want to have to listen to it!"

THE END

TOM CORBETT
SPACE CADET
SABOTAGE IN SPACE
By CAREY ROCKWELL
WILLY LEY Technical Adviser

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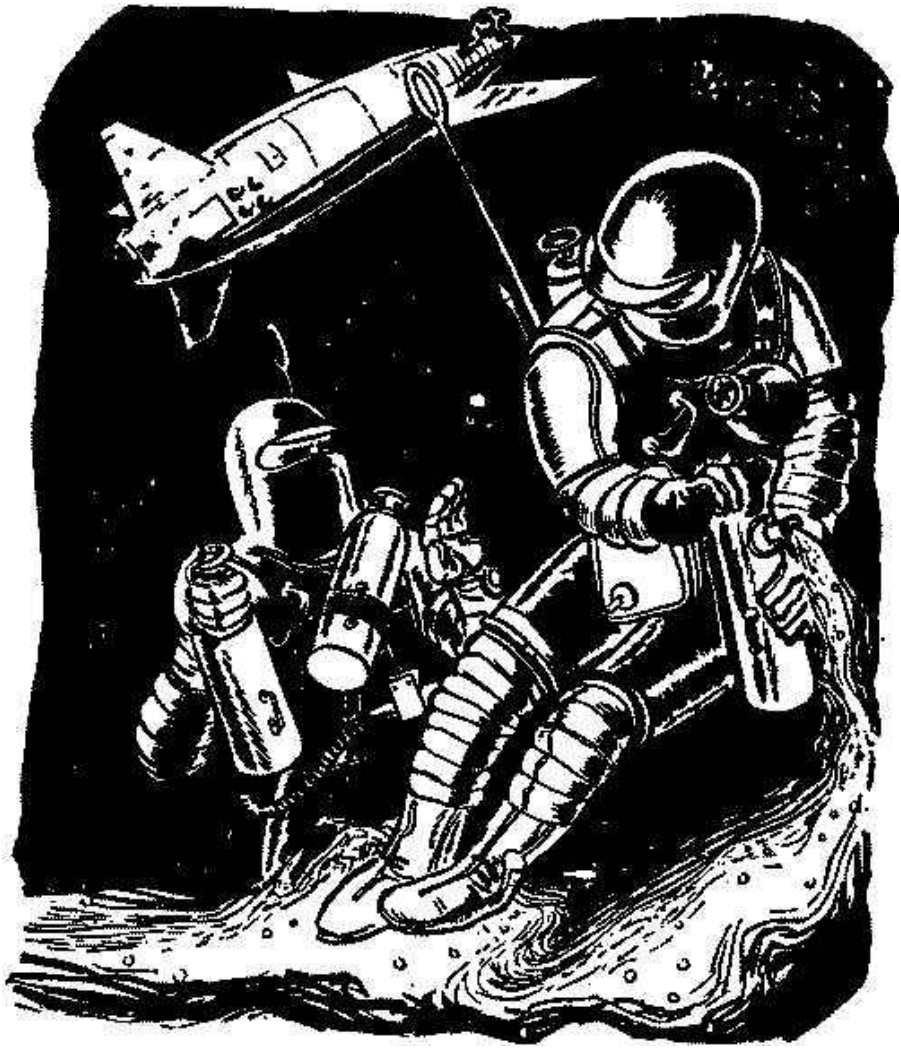
First Published 1955



A TOM CORBETT Space Cadet Adventure

SABOTAGE IN SPACE

By CAREY ROCKWELL

WILLY LEY *Technical Adviser*

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CHAPTER 1

"*Bong-g-g! Bong-g-g! Bong-g-g!—*"

With a hollow booming sound reminiscent of old eighteenth-and nineteenth-century clock towers, the electronic time tone rang out from the Tower of Galileo, chiming the hour of nine. As the notes reverberated over the vast expanse of Space Academy, U.S.A., the lights in the windows of the cadet dormitories began to wink out and the slidewalks that crisscrossed the campus, connecting the various buildings, rumbled to a halt. When the last mournful note had rolled away to die in the distant hills, the school was dark and still. The only movement to be seen was the slow pacing of the cadet watch officers, patrolling their beats; the only sound, the measured clicking of their boots on the metal strips of the slidewalks.

On the north side of the quadrangle near the Tower, a young watch officer paused in front of one of the dormitories and scanned the darkened windows of the durasteel and crystal building. Satisfied that all was in order, he continued on his lonely way. A moment later a shadowy figure rose out of the bushes opposite the dormitory entrance and stepped forward quickly and cautiously. Pausing on the slidewalk to stare after the disappearing watch officer, the figure was illuminated by the dim light from the entrance hall. He was a young man wearing the royal-blue uniform of a Space Cadet. Tall and wiry, with square features topped by a shock of close-cropped blond hair, he stood poised on the balls of his feet, ready to move quickly should another watch officer appear.

After a quick glance at his wrist chronometer, the young cadet darted across the slidewalk toward the transparent crystal portal of the dormitory. Hesitating only long enough to make certain that the inner hallway was clear, he slid the portal open, ducked inside, and sprinted down the hall toward a large black panel on the wall near the foot of the slidestairs. On the panel, in five long columns, were the name plates of every cadet quartered in the dormitory and beside each plate were two words, IN and OUT, with a small tab that fitted over one of the words.

Out of the one hundred and fifty cadets in the dormitory, one hundred and forty-nine were marked IN. The slender, blond-haired cadet quickly made it unanimous, reaching up to the tab next to the name of Roger Manning and sliding it over to cover the word OUT. With a last final look around, he raced up the slidestairs, smiling in secret triumph.

In Room 512 on the fifth floor of the dormitory, Tom Corbett and Astro, the two other cadets who, with Roger Manning, made up the famed *Polaris* unit

of the Space Cadet Corps, were deep in their studies. Though the lights-out order had been given over the dormitory loud-speaker system, the desk lamp burned brightly and there was a blanket thrown over the window. The boys of the *Polaris* unit weren't alone in their disobedience. All over the dormitory, lights were on and cadets were studying secretly. But they all felt fairly safe, for the cadet watch officers on each floor were anxious to study themselves and turned a blind eye. Even the Solar Guard officer of the day, in charge of the entire dormitory, was sympathetic to their efforts and made a great deal of unnecessary noise while on his evening rounds.

His brown curly hair falling over his forehead, Tom Corbett frowned in concentration as he kept the earphones of his study machine clamped tightly to his ears and listened to a recorded lecture on astrophysics as it unreeled from the spinning study spool. As command cadet of the *Polaris* unit, Tom was required to know more than merely his particular duty as pilot of a rocket ship. He had to be familiar with every phase of space travel, with a working knowledge of the duties of all his unit mates.

Astro, the power-deck officer of the unit, paced back and forth between the bunks like a huge, hulking bear, muttering to himself as he tried to memorize the table of reaction times for rocket motors. Though the huge Venusian cadet was a genius at all mechanical tasks, and able to work with tools the way a surgeon worked with instruments, he had great difficulty in learning the theories and scientific reasons for all the things he did instinctively. Suddenly Astro stopped, looked at his chronometer, then turned to Tom.

"Hey, Tom!" he called. "Where's that jerk, Manning?"

"Huh?" replied Tom, lifting one of the earphones from his ears. "What did you say, Astro?"

"Where's Manning?" reiterated Astro. "It's ten minutes after lights out."

"He was going to get those study spools for us, wasn't he?" mused Tom.

"He should've been back by now," grunted the Venusian. "The library closed an hour ago. Besides, he couldn't have gotten those spools. Every other cadet in the Academy is after them."

"Well, he's a pretty resourceful joker," sighed Tom, turning back to the study machine. "When he goes after something, he gets it by hook or crook."

"It's the crook part that bothers me," grumbled Astro. "Besides, if the O.D. catches him out of quarters, he'll be doing his studying while he's polishing up the mess hall."

Suddenly the door to the room burst open and slammed closed. Tom and Astro whirled to see their missing unit mate lounging against the doorframe, grinning broadly.

"Roger!"

"Where've you been, blast you?"

Tom and Astro both jumped forward and spoke at the same time. The blond-haired cadet merely looked at them lazily and then sauntered forward, pulling six small study spools from his pockets.

"You wanted these study spools, didn't you?" he drawled, giving his unit mates three apiece. "Be my guest and study like mad."

Tom and Astro quickly read the titles of the spools and then looked at Roger in amazement. They were the ones the unit needed for their end-term exams, the ones all the cadets needed.

"Roger," Tom demanded, "how did you get these spools? The library was out of them this afternoon. Did you take them from another unit's quarters?"

"I did not!" said Roger stoutly. "And I don't like your insinuations that I would." He grinned. "Relax! We have them and we can breeze through them in the morning and have them back where they belong by noon tomorrow."

"Where they belong!" Tom exclaimed. "Then you have no right to them."

"Listen, hot-shot!" growled Astro. "I want to know where you got these spools and how."

"Well, if that isn't gratitude for you!" muttered Roger. "I go out and risk my neck for my dear beloved unit mates and they stand around arguing instead of buckling down to study."

"This is no joke, Roger," said Tom seriously. "Now for the last time, will you tell us how you got them?"

Roger thought a moment and then shrugged his shoulders. "All right," he said finally. "When I went down to the library to see if it was our turn for them yet, I found that we were still twenty-seventh in line."

"Twenty-seventh?" gasped Astro.

"That's right, spaceboy!" snorted Roger. "So I tried to con that little space doll of a librarian into moving our names up on the list, but just then an Earthworm cadet came in with an order from Tony Richards of the *Capella* unit, an order for the very spools we needed."

"You mean, you took them from an Earthworm?" queried Tom.

"Well, I didn't take them exactly," replied Roger. "I waited for him out on the quadrangle and I told him he was wanted in the cadet dispatcher's office right away and that I would take the spools on up to Tony."

"And you brought them here!" howled Astro.

"Yup." Roger grinned. "Do you think that squirt will know who I am? Not in a million years. And by the time Tony and the others do find out who has them, we'll be finished. Get it?"

"I get it, all right, you crummy little chiseler," growled Astro. "Tom, we gotta give these back to Tony."

Tom nodded. "You're right," he said.

"Now wait a minute!" said Roger angrily. "I went to a lot of trouble to get these things for you—"

"Look, Roger," Tom interrupted, "I would rather have one night with those spools than a two-week leave in Atom City right now. But the *Capella* unit is having a tough time making the Spring passing lists. They need those spools more than we do."

"Yeah," said Astro. "We could probably take the tests now and pass, but

they really have to study. I'm for getting them back to the *Capella* unit right now. How about you, Tom?"

The young cadet nodded and turned to Roger who stood there, frowning. "Roger," said Tom, "both Astro and I really appreciate it. But you wouldn't want the *Capella* unit to flunk out of the Academy, would you?"

Roger gnawed at his thumbnail and then looked at his two unit mates sheepishly. "You're right, fellas," he said. "It was kind of a dirty trick. Give me the spools. I'll take them back to Tony right now."

"Wait a minute!" exclaimed Astro. "It's after hours. We're not supposed to be out of the dorm."

For a second the three boys looked at each other hesitantly. Then, as though they had telepathically conveyed their individual decisions to each other, they turned toward the door. Tom opened it and stepped out into the hall cautiously, then turned back and nodded. Roger and Astro followed him quickly.

As Roger closed the door behind him, he murmured, "There's no reason for all of us to go. I was the one who took the spools, so I should bring them back. Why should you two guys risk getting caught?"

Astro punched him in the shoulder fondly. "We always work together, don't we?" he declared. "If one's gonna get into trouble, we all should."

"Let's go," urged Tom in a sharp whisper, and they all raced silently toward the slidestairs.

Seconds later, the three cadets of the *Polaris* unit were down in the main hallway of the dormitory building, tiptoeing toward the front portal. Pausing only to look into the O.D.'s office to make sure the officer wouldn't spot them, they reached the portal and ducked out. Pausing again to scan the immediate area for any watch officers, they darted across the slidewalk and into the shadows of the shrubbery.

Quickly and soundlessly, they raced across the green lawn of the quadrangle toward the dormitory where the *Capella* unit was quartered. Once they sprawled headlong on the turf and lay still as a watch officer suddenly appeared out of the darkness at the base of the Tower of Galileo. But he walked past without seeing them and they continued on across the quadrangle.

Reaching another clump of shrubbery right opposite the *Capella* unit's dormitory, the boys stopped and discussed their final move.

"This is getting ridiculous," whispered Roger. "I shouldn't have let you two come with me. But I'm going the rest of the way myself."

"We came this far, Roger," asserted Tom. "We'll go the rest of the way and help you explain."

"And you've got a space-blasting lot to explain."

The three cadets whirled as a familiar voice snarled out of the darkness behind them. They saw three figures, all in cadet uniforms, wearing the insigne of the *Capella* unit. In the forefront was Tony Richards scowling angrily.

"Tony!" gasped Tom. "What are you doing out here?"

"We were on our way over to your dorm, Corbett," growled Tony Richards. "We saw you three sneaking across the quadrangle."

"Coming to pay us a visit, fellas?" asked Roger blandly.

"You know blasted well why we were coming," snapped McAvoy, the second member of the *Capella* crew.

Davison, the third member of the unit, stepped forward. "Give us back our study spools," he demanded.

"Take it easy," said Tom in a calm voice. "We were bringing them back to you."

"I'll bet," snapped McAvoy.

"Relax," growled Astro. "Tom said we were returning them. We admit it was a dirty trick, but you haven't lost much time. Half an hour maybe."

"Don't try to cover for Manning, Astro," said Tony heatedly. "It's a shame you two guys are stuck with a bad rocket like Manning in your unit."

"Bad rocket!" exclaimed Roger.

"Now, wait a minute, Tony," Tom said, advancing toward the broad-shouldered cadet. "We are returning the spools, and we apologize for yanking them from the Earthworm. But that doesn't mean we'll listen to that kind of talk about Roger."

"He stole them, didn't he?" retorted Davison.

Roger stepped forward. "Davy, my boy," he said in a low controlled tone, "I don't like that remark. I've got a notion to make you eat that word."

"I don't think you can, Manning," replied the angry cadet.

Tom stepped between them quickly. "Listen, fellows, we don't want any trouble. Here are the spools." He held them out.

"That's what I mean, Corbett," said McAvoy sarcastically. "Manning gets you in trouble and then you and the big boy have to bail him out."

"We've apologized," retorted Astro angrily. "You're getting the spools back. So no more cracks about Roger."

"I can take care of myself, Astro," said Roger.

"Here, take the spools and get back to your dorm," growled Tom. He handed the pile of spools over, but as Tony extended his hands, one of the spools dropped to the grass. No one made a move to pick it up.

"There are the spools," said Tom icily. "Now beat it."

"Let's go," said Davison, leaning over to pick up the spool. "The air is beginning to stink around here."

Red-faced, Roger stepped forward and put his foot on the spool just as Davison reached for it. "That's enough, Davison," he snarled.

"Why, you dirty space crawler—" Davison straightened up and swung wildly. Roger ducked the blow easily, then spun the heavy-set cadet around and pushed him back into the bushes.

Tony Richards stepped forward and Astro turned to him threateningly, but Tom quickly shoved them aside and faced Richards.

"Listen, Tony," he said. "We're all out after hours, and if a watch officer spots us, we've had it. We don't want any trouble." He glanced at Davison, who was being restrained by McAvoy. "We apologize. Now get out of here before we're all logged."

Richards nodded and started to turn to his unit mates when suddenly Davison jerked free and lunged at Roger. The blond-haired cadet was not caught unawares. He stepped aside and threw a quick jolting right straight to the *Capella* cadet's jaw. Davison staggered back and fell to the ground. He shook his head, jumped to his feet again, and charged back with a roar.

Both Tom and Astro and Tony Richards and McAvoy grabbed at their respective unit mates and tried to restrain them. In the struggle to keep Roger and Davison apart, Astro accidentally pushed Richards to one side.

"What in blazes—!" yelled Richards. He suddenly released Davison and gave Astro a shove that sent the big cadet sprawling. And then, without warning, McAvoy swung at Tom. The curly-haired cadet saw the blow coming a fraction of a second too late and caught it on the side of his head. He fell back into the bushes.

Roger yelled in anger at the sudden attack, and grabbing Davison by the front of his tunic, slammed a hard right into the cadet's stomach. Richards grabbed Roger, holding him around the head and neck, as McAvoy swung at him viciously. Seeing their unit mate pommeled, Tom and Astro charged back and the battle was on. The two units forgot about the watch officers and the strong possibility of being caught and slugged it out in the darkness of the quadrangle. The fight seemed to be the climax of a long-standing feud. The *Polaris* crew had first come to grips with Richards and his unit mates when they were assigned to the old rocket cruiser *Arcturus*. When the ship was scrapped, the cadets were transferred to the *Capella*, but the rivalry continued stronger than before. Time and time again, the two crack units had competed for hours on the athletic fields, in space flight tests, and in the classroom. The *Polaris* unit had constantly come out ahead, often by no more than a fraction of points, but their superiority was clear, and the *Capella* unit could not repress its resentment and jealousy.

Tony Richards and Tom had squared off and were boxing with lightninglike thrusts of their fists, each waiting for an opening. In back of them, Roger and Davison were simply hammering away at each other's mid-sections, and Astro and McAvoy were rolling around on the ground like bears, growling and tugging. It was brute strength against brute strength.

Tom danced away from Richards' rapierlike left, weaved low, and shot a hard right to his opponent's stomach that left him gasping. Richards doubled over and stepped in to bring up a solid right, then hesitated. Richards was through. The blow to the mid-section had taken all the fight out of him. Tom refused to pursue his advantage while the other could not fight back. His anger cooling rapidly, Tom realized that the whole fight was nothing more than a misunderstanding. As Richards sank to the grass helpless and gasping for

breath, Tom turned to break up the other two fights. But Roger was just finishing his battle with Davison. Feinting to the mid-section and pulling Davison's guard down, Roger hooked his left cleanly to the jaw, following immediately with a haymaker right. Davison dropped to the turf, out cold.

Meanwhile, Astro had rolled on top of the last cadet of the *Capella* unit, and with his great strength, clamped McAvoy's arms to his side. Face to face, the two cadets glared at each other. The muscles tightened in Astro's arms, and beads of sweat popped out on his face.

"Give up!" demanded the Venusian, tightening his grip.

Slowly McAvoy sagged under the pressure Astro was applying and his face began to redden.

"He'll break his back," whispered Roger to Tom.

Tom nodded and stepped forward. "Let him go, Astro. He's finished."

Astro did not let go. His face was white with anger. McAvoy bent further back. "Give up," demanded Astro.

"Grab him," said Tom to Roger. "Get him off Mac before he breaks his back."

Tom and Roger jumped to Astro's side and each grabbed one of the powerful arms encircling McAvoy. It took all their strength to break the viselike hold the giant Venusian had on the other cadet, but slowly they pulled the muscular arms back and McAvoy slumped to the grass.

The three victorious cadets paused and looked down at the beaten *Capella* crew, then looked at each other.

"Well," sighed Roger, "I suppose that the least we can do now is get them back to their dorm."

Tom and Astro nodded. As the three boys started forward they were stopped by a voice behind them—a voice that roared like an atomic blast.

"*Stand to!*"

Whirling around in surprise for the second time within a space of ten minutes, Tom, Astro, and Roger saw a menacing sight standing behind them, his balled fists jammed on his hips, his booted legs widespread, and his massive head thrust forward. It was Major Lou Connel, more familiarly known as "Blast-off" Connel, a Senior Line Officer of the Solar Guard and the sternest disciplinarian in the whole Academy. Behind him stood a short, thin man, whom none of the boys recognized.

Connel stepped forward slowly and menacingly, glaring at the three boys.

"Out a little late, aren't you, boys?" he asked with a mildness that sent a chill down their spines.

"Y-yes sir," replied Tom, a slight tremor in his voice.

"On official business, I presume?" The major's voice was still as smooth as silk.

Tom gulped and then shook his head. "N-no, sir," he quavered.

Connel's eyes widened in mock horror. "Why, Corbett," he exclaimed, "didn't anyone ever tell you the rules of Space Academy? Or perhaps you didn't know what time it was?"

Tom bit his lip. He knew that he and his unit mates were caught in a hopeless trap and that Connel was simply baiting them. "I knew what time it

was, sir," he said. "We're out after hours."

Suddenly there was a movement in the brush behind Tom as McAvoy stumbled to his feet. Richards also sat up groggily.

"Major!" It was the man behind Connel who spoke. "Who are they?"

As though in answer, Davison stood up too and the three members of the *Capella* unit were suddenly and horribly aware of the presence of Connel. They immediately braced themselves, their faces white with sudden fear.

"So!" Now the major's voice began to roar again. "Fighting, eh? Well, now we really have something here."

"Sir," began Richards tremulously, "if you'll let us explain—"

"I'll let you explain all right," thundered Connel. "Out after hours, fighting, you'll have a great time explaining to an inquiry."

"An inquiry!" Tom exclaimed involuntarily.

"Did you expect anything less?" roared Connel. "You are all under arrest and confined to quarters."

The six cadets all trembled but said nothing, standing at rigid attention, eyes straight ahead.

"Return to your quarters immediately."

As one, the cadets wheeled and marched off. Tom, Astro, and Roger walked across the quadrangle back to their dorm, and the *Capella* unit took the slidewalk that led to their quarters. Connel watched them go, a ferocious scowl on his craggy features.

"Little rough on them, weren't you, Major?" asked the man who stood beside the Solar Guard officer.

"Rules are meant to be obeyed, Professor Hemmingwell," retorted Connel stiffly.

"Perhaps you're right," mused the stranger. "But what's this about an inquiry?"

"A trial, Professor. A trial conducted by the cadets themselves to see whether or not the accused should be kicked out of the Academy."

"Kicked out?" exclaimed the professor. "You certainly do believe in discipline."

"These boys are to be Solar Guardsmen," replied Connel shortly. "If they can't obey orders now, they never will."

"Well, it's all very unimportant really, Major," Hemmingwell said with a shrug. "We have many more vital things to think about now than mere cadets. Shall we go? Commander Walters is waiting for us."

As the little man in civilian clothes walked away, Connel stifled a blistering retort. True, his mission here at the Academy was of great importance. But cadets were important too. And he was afraid. The *Polaris* unit was in grave trouble, grave enough to cause expulsion from the Academy.

CHAPTER 2

Space Academy, U.S.A.!

This was the dream and goal of every boy in the thrilling year 2354, when mankind had reached out beyond the bounds of Earth and had conquered space, colonizing planets and blazing trails to distant worlds deep in the black void of the outer universe. To support the ever-growing need for trained spacemen to man the rocket ships that linked the planets and distant satellite outposts, the Solar Alliance, the government of the solar system, had erected Space Academy. It was there that the most promising boys were trained to become members of the Solar Guard to patrol the space lanes and keep peace in the universe.

Organized into tight, hard-hitting units of three, the Academy cadets were trained to work together under the most severe conditions. Their waking hours were spent in one of two places; in powerful rocket cruisers, blasting through space on endless training missions, or at the Academy in classrooms and lecture halls, where they studied everything from the theory of space flight to the application of space laws. A very important course of study was the theory of government. For, above all else, the Solar Alliance was a government of the people. And to assure the survival and continuance of that democratic system, the officers of the Solar Guard functioned as the watchdogs of the space democracy, entrusted with the vital mission of making sure the government reflected the will of the people.

As a practical approach to this course, the Academy officials had established a Cadet Council for the settlement of disputes and infractions of rules by the cadets. It was to this cadet governing body that the fight between the *Polaris* and the *Capella* units was referred by Major Connel.

The Academy had buzzed with talk since the fight, and sides were drawn hard and fast. Both units were extremely popular and the arguments raged through the dormitories as to which unit was at fault.

Meanwhile, the Cadet Council decided to have a full trial to give each unit a fair chance to defend itself against the charges. A judge and jury were selected and lawyers appointed for each side. Finally a date was set for the trial.

During this time, Tom, Roger, and Astro were confined to their quarters. They did not talk much, each conscious of the fact that should the Cadet Council decide against them, they might be expelled from the Academy. The same was true about the *Capella* unit, of course, but the Council might decide

the *Polaris* had instigated the whole affair. Roger was particularly silent, since his actions in obtaining the study spools had started the whole chain of disastrous events.

The boys did not know which cadet would be appointed to defend them until late the following afternoon when there was a knock on the door, and a small, thin cadet, wearing a thick pair of eyeglasses that gave him a decided owllike look, entered the room.

"Alfie Higgins!" cried Tom.

"The Brain!" yelled Astro.

"Glad to see you, pal!" shouted Roger.

The three cadets surrounded little Alfie and pommeled him playfully in their joy at seeing another cadet. Alfie merely looked at them gravely.

"Hello, Tom, Roger, Astro," he said somberly.

"What are you doing here?" asked Tom. "We're not allowed visitors."

"I'm not a visitor, Tom," replied the little cadet. "I'm your defense lawyer." He glanced at Roger and Astro. "I hope that will be satisfactory to you."

"Satisfactory!" exclaimed Tom. "Alfie, we couldn't ask for anyone better."

"That's right, Brain," said Roger. "You're the boy for us."

Astro grunted his approval. "Yeah."

"Well, in that case," said Alfie, opening his brief case, "I would suggest that we get right down to the facts. The trial is tomorrow."

"All right, Alfie, we're ready," said Tom. "I suppose you want to hear the whole thing."

"If you don't mind," said Alfie, adjusting his eyeglasses. "You start, Roger."

Sitting around the room, relaxed, yet concerned, the four cadets discussed the details of the case. Alfie took copious notes, occasionally interrupting Tom or Roger or Astro to ask a pointed question.

They talked for nearly four hours before Alfie was finally satisfied that he knew all the facts. He left them with the same somber attitude he had when he first arrived, and when the boys were alone, they each felt a chill of fear. The full meaning of a defense lawyer hit them. They were in serious trouble. After a few moments of silence, Tom rose and went into the bathroom to take a shower. Astro flopped on his back in his bunk and went to sleep. Roger began throwing darts idly at his "solar system" over his bunk. It was a map of his own design depicting the planets revolving around the sun, only each planet was represented by a picture of a girl, and his own grinning countenance was the sun. He was known to have made dates by throwing a dart at the map blindly and taking out the girl whose picture he had hit.

When Tom returned a few minutes later, he looked at his unit mates and shook his head. Never, in all the adventures they had shared or all the tough situations they had been in, had either Roger or Astro given up as they seemed to be doing now.

"And," thought Tom miserably, "with good reason too! I feel like tossing in the sponge myself."

* * * * *

The huge Space Academy gymnasium had been converted into a temporary courtroom, and at ten A.M. the following day the cavernous chamber was packed with all the cadets who could get off duty, in addition to a liberal sprinkling of Solar Guard officers and instructors who were keenly interested in their pupils' handling of orderly democratic procedure.

As the cadet judge opened the proceedings, Commander Walters, Major Connel, Captain Strong, and Lieutenant Wolchek, unit commander of the *Capella* crew, watched intently from their seats in the back of the gym. Up forward, at two small tables immediately in front of the Council's platform, the *Polaris* and *Capella* units sat rigidly, while their defense lawyers arranged papers and data on the table for quick reference. Little Alfie Higgins didn't say a word to Tom, Roger, or Astro, merely studied his opponent, Cadet Benjy Edwards, who was acting as attorney for the *Capella* unit. Edwards, a beefy boy with a florid face, looked across the chamber and sneered at Tom. The young cadet repressed a quick shudder of anger. There was bad blood between the two. Once, Tom had found Edwards bullying a helpless group of Earthworm cadets, forcing them to march and exercise under a broiling Martian sun for no reason at all, and Tom had put a stop to it. Edwards had taken every opportunity to get back at Tom, and now he had his best chance.

From the beginning, the trial was argued bitterly. Though the issues were clear-cut—illegal possession of the study spools, out on the quadrangle after hours, and fighting—Edwards tried to accuse the *Polaris* unit of irrelevant infractions. But Alfie Higgins was his equal. From the beginning, he admitted that the *Polaris* unit was guilty of the first charge, but made a strong claim that they had more than made up for the infraction by risking censure to return the spools to their rightful owners. In addition, he forced Tony Richards to admit that he had accepted Roger's apology. The Council agreed to drop that charge and to hold the second charge in abeyance, since both units seemed to have had good reason for being out after hours. Benjy Edwards scowled but could find no reason to object to the Council's decision. Alfie, on the other hand, broke into a smile for the first time that morning. He turned to the Council and announced that the only point of issue was the fight and who struck the first blow.

In the back of the room, Connel turned to Strong. "I, personally, am going to sign the pass for a week's leave for Alfie when this is over," he said. "I never saw such a ding-blasted brain in operation in all my life."

"He really slipped one over on Benjy Edwards all right," muttered Strong, his voice tinged with pride.

In front of the Council platform, Alfie turned to the judge.

"I would like to call to the stand, if the court please," he said in a clear voice, "Cadet Tom Corbett."

Tom walked to the chair, was sworn in, and sat down, facing Alfie.

"Cadet Corbett," Higgins paused, and then asked almost casually, "did you strike the first blow?"

"No," replied Tom.

"Dismissed," said Higgins suddenly. "Call Roger Manning to the stand, please."

Roger rose, and passing Tom on the way back, took his place on the stand and repeated the oath.

Alfie looked at Roger calmly and in a clear voice asked, "Cadet Manning, did you strike the first blow?"

"No."

"Dismissed," said Alfie. "Please call Cadet Astro to the stand."

The cadet audience began to murmur and sit forward tensely.

"What the devil is he doing?" growled Connel.

Strong grinned. "Blast me if I know, Lou," he said. "But wait and see. I'll bet you ten credits it's a lulu."

Astro was sworn in and Alfie waited for the room to become quiet.

"Cadet Astro," he said finally, "you have heard the other members of the *Polaris* unit state, under solemn oath, that they did not strike the first blow. Now, I ask you to consider carefully your answer. Did you, Cadet Astro"—Alfie paused dramatically, and nearly shouted the final part of the question—"strike the first blow?"

"No!" bellowed Astro.

"Dismissed," said Alfie quickly, turning to the Council. "Gentlemen," he said, "he did not strike the first blow, nor did Cadet Corbett, nor Cadet Manning. And I will not insist that the three members of the *Capella* unit be asked the same question, since I concede that they are three impeccable gentlemen who could *not* strike the first blow in a common fight."

As the audience in the courtroom burst into a roar, Benjy Edwards jumped to his feet.

"Your honor," he appealed, "I insist that the *Capella* unit be allowed to take the stand and deny the charge—"

"Your honor," interrupted Alfie, "the *Polaris* unit makes no charge. They freely admit that the *Capella* unit could not, I repeat, sir, could not have struck the first blow. And the *Polaris* unit—"

"Your honor—!" cried Edwards. "I insist."

The cadet judge rapped his gavel. "*Polaris* counsel will speak."

"Thank you, your honor. I just wanted to say that the members of the *Polaris* unit defer to the *Capella* unit. I submit, your honor, that it was nothing more than a misunderstanding and that both sides should be punished or freed."

"Is that all?" asked the cadet judge.

"Yes, sir," said Alfie.

"Counsel for the *Capella* unit may speak now. Do you insist on having your defendants brought to the stand to swear they did not start the fight?"

"Your honor—" began Benjy. But Alfie had already planted the seed. There were shouts of "Give it to both of them" from the gym.

Red-faced, Edwards held up his hand and appealed for quiet. "Your honor," he began at last, "after consultation with the members of the *Capella* unit, they have directed me to state that they are willing to abide by the suggestion of the *Polaris* counsel."

As the cadets in the courtroom roared their approval, the cadet judge consulted quickly with the members of the Council. A decision was reached quickly. A verdict of conduct unbecoming cadets was brought against both units, with orders for a strong reprimand to be placed on their individual official records. In addition, each unit was denied leaves and week-end passes from the Academy until the end of the term, four weeks away. All spare time was to be spent on guard duty.

"You are to report to Chief Warrant Officer Timothy Rush for further orders on all time not actually accountable for in Academy schedules," concluded the cadet judge. "Dismissed."

The case was closed with a loud roar of approval from the entire cadet audience, who had seen justice done and democracy in action. Tom, Astro, and Roger looked at each other and smiled. They were still Space Cadets.

CHAPTER 3

"Where is Captain Strong?"

Startled, Commander Walters glanced up to see Major Connel enter his office, accompanied by Professor Hemmingwell. The thin little man scowled with irritation as he walked right up to the commander's desk.

"I wanted Captain Strong here for this meeting," the professor continued.

"Of course," replied Walters. "Captain Strong *should* be here." He turned to Connel. "Have you seen him, Connel?"

As Connel lowered his bulk into a soft chair, he sighed. "Steve is with his unit, chewing them out over that fight with the *Capella* unit."

Walters grinned. "You heard about our trial, Professor?"

"Yes," replied Hemmingwell stiffly. "Frankly, I cannot see how Captain Strong can ignore this meeting to hold hands with those infantile cadets."

Connel's face turned red and he glanced quickly at Walters, whose face was approaching the same color. Neither expected such a comment from a scientist.

"Professor," said Connel heavily, leaning forward in his chair, "I assure you Steve Strong is *not* holding their hands. In fact, I would hate to be in those cadets' shoes right now."

Hemmingwell grunted and drew back from Connel's burning glare. "Be that as it may," he said. "I cannot see that the staff of this institution has done anything constructive for the last three days. So far as I'm concerned, this childish talk about a common fight has been a complete waste of time."

"Professor Hemmingwell," said Commander Walters, rising from his chair, "if there had to be a choice between your project, as valuable as it may be, and the valuable lesson learned today by my cadets, I'll tell you right now that the lesson would come first. This was a very important issue. The cadets had their real taste of democracy in action today, down on a level where they could understand it. And, I dare say, there are quite a few boys who heard that childish talk, as you put it, and will remember it some time in the future when they are called on to act as officers of the Solar Alliance."

Connel cleared his throat noisily. "I think we'd better get on with the meeting," he said. "Do you have the plans and specifications, Hemmingwell?"

But the wiry professor refused to be dissuaded. He faced Commander Walters and wagged his finger under the spaceman's nose.

"You have a perfect right to your own ideas concerning the education of your cadets!" he shouted. "But I have a right to my ideas regarding my space

projectile operations. I've devoted a good part of my life to this plan, and I will not allow anything, or anyone, to stand in my way."

Before Walters could reply, Connel jumped up and growled.

"All right! Now that we've got the speeches out of the way, let's get down to work."

Walters and the professor suddenly stopped short and grinned at the brusque line officer, who, for all his bullying tactics, knew how to take the edge off a touchy situation. Walters sat down again and Hemmingwell spread out several large maps on Walters' desk. He pointed to a location on the chart of the area surrounding Space Academy.

"This is the area here," he said, placing his finger on the map. "I think it is best suited for our purpose. Dave Barret and Carter Devers concur—"

"Someone mention my name?"

The sliding door to the commander's office opened and a tall, distinguished man with iron-gray hair entered, followed by a handsome, younger man.

"Devers!" exclaimed Hemmingwell in obvious delight. "I didn't expect you until this evening."

"Got away earlier than I figured," replied the elder man, who then turned to the two Solar Guard officers. "Hello, Commander Walters, Major Connel. Meet Dave Barret, my assistant." He gestured toward the young man beside him and they shook hands in turn.

"Well," said Devers, "have we missed anything?"

"Just starting," replied Walters.

"Fine," said Devers. "Oh, by the way, I want it understood, Commander, that while I am lending Dave to you to work on the operation with the professor, I'm not even going to let you pay him. He remains on my payroll, so you can't take him away from me. The Jilolo Spaceways would be lost without him."

Walters smiled. "All right with me," he said.

"I don't care *who* pays him, as long as he's with me on this, Commander," said Hemmingwell, wiping his glasses carefully. "That young man has a mind equipped with a built-in calculator."

Dave Barret grinned in obvious embarrassment. "If Mr. Devers can devote his time to you for one credit a year as salary, I have no objections to working on this project," he said. "In fact, I told Mr. Devers that if he didn't let me come down here, I'd quit and come, anyway."

Hemmingwell beamed. "Well, now, if Captain Strong were only here, we could get along with the business at hand."

Devers frowned. "Why is he so important?" he asked.

"Steve has been placed in charge of procurement for the construction of the hangar and getting the spur line in from the monorail station," replied Connel. "And that reminds me, Professor," he continued. "Where is your hangar going to be? And where is that spur coming in from? Are we going to have a lot of building to do to get that blasted thing snaked over those hills?" Connel

pointed to the protective ring of high rugged peaks that surrounded the Academy.

"That's why Dave Barret here is so important," replied Hemmingwell. "He figured out a way of tunneling through this section here"—he pointed to a particularly rugged section of the hills—"at half the cost of bringing it straight in on that plain there."

Connel and Walters studied the map closely. "Very good," said Walters.

"You think you can do it, Dave?" asked Connel.

"I'm sure I can, sir," replied the young man.

"And save time?" growled Connel.

"I'll have that line through, and in operation, bringing in the first haul of hangar material in three weeks."

Impressed by the young man's confidence, Connel turned to Commander Walters and nodded.

"Well, if you can do that, Barret," said Walters, "Professor Hemmingwell will have to begin his operations now, won't you, Professor?"

"That's right," said the wiry old man. "Right now, this very minute."

Devers suddenly spoke up. "I would like to have one thing explained, Commander, unless, of course, it's a breach of security, but—" He hesitated.

"What is it?" asked Connel.

"I've been going along with you for some time now," explained Devers. "But I still don't know the exact nature of the projectile you propose to build. What's the purpose of it?"

"You certainly deserve an answer to that question," said Commander Walters warmly. "You've contributed your services to this operation absolutely blindly. Now you should know everything." He paused and looked at Hemmingwell and Connel, who nodded in return. "Carter," he resumed, "we are going to create a spaceship that can launch a large projectile filled with cargo and send it to any small area."

Carter Devers' face lighted up. "You mean, you are going to fire payloads from space freighters instead of landing with them?"

"Exactly," said Walters. "These freighters will deliver mail and supplies to out-of-the-way settlements that do not have a spaceport large enough to handle the giant freighters and have to depend on surface transport from the larger cities."

Carter Devers shook his head slowly. "This is the most amazing thing I've ever heard of in my life."

"I thought you'd be surprised, Carter," said Walters, his face glowing with pleasure. "The big item, of course, is to lick the problem of standardizing the receivers for the projectiles. They must be lightweight, easily assembled, and precision made, since it's going to have an electronic gismo inside for the projectile to 'home' on."

Professor Hemmingwell grunted. "That electronic gismo, as you call it, is the real idea behind the whole operation."

"How is that, Professor?" asked Devers.

"Well, it works on this principle," began Hemmingwell. "The receiver will send out a distinctive radar beam. In the spaceship, the projectile designated for that receiver will be tuned in to the frequency of that beam and fired from the ship. A homing device, built into the projectile will take over, guiding it right down the beam to its destination."

"And how does that radar beam work?" asked Devers.

"That," said Connel stiffly, "is a military secret."

"Of course," nodded Devers, smiling. "I was just curious."

"Well, now that we're agreed on a site for the operation," said Professor Hemmingwell, "is there anything else you want to discuss, Commander?"

"Not for the moment, Professor," replied the commandant of Space Academy. "You have any more questions, Major Connel?"

When Connel shook his head, Devers spoke up again.

"There is something else I would like to know, if it isn't a breach of military secrecy," he said with a smile at Connel. "I don't remember seeing anything about this project in the bills sent before the Solar Council. When was it authorized?"

"It wasn't," snapped Hemmingwell. "It was blocked before it came to a vote. So I ran around the whole Solar Alliance, begging and borrowing the money to finance the project myself."

"And the Solar Guard is just lending technical assistance and facilities," supplied Walters. "Of course, should the project succeed, we will go before the Solar Council with an emergency request to incorporate the idea into the defense of all Solar Guard outposts."

"Private capital, eh?" said Devers, turning to look at the professor admiringly. "You are a very brave man, Professor Hemmingwell, to risk so much. And, I might add, you must be an excellent salesman to sell Solar Alliance bankers your ideas."

"Common sense," snorted the professor. "Plain horse sense."

"Still," insisted Devers, "most of the bankers with whom I've ever tried to talk common sense *were* horses." As everyone laughed, he turned to Walters. "Now, just what do you want me to do, Commander?"

"Carter, you've done so much for this project already that I'm going to give you a rest," said Walters.

"I don't understand."

"From now on," Major Connel broke in, "the project will be in the hands of the professor. If he needs anything, he'll tell Steve Strong. If Strong can't fulfill the request, he'll pass it on to Commander Walters, and if the commander feels it necessary to have your help, he will contact you."

"You understand, of course," said Walters, trying to soften the major's flat statement.

"Of course," replied Devers easily. "Still, if you need my help on this thing at all, don't fail to call me."

"Thank you, Carter," said Walters. "You've been a great help already."

Shaking hands all around and wishing them well, Devers left the office. Dave Barret, Commander Walters, and Professor Hemmingwell turned to their study of the map, but Major Connel remained where he was, rubbing his chin thoughtfully. He shook his head as if to brush an impossible idea out of his mind and then turned to the map.

* * * * *

Tom Corbett, Roger Manning, and Astro stood at rigid attention in their dormitory room, backs ramrod straight, eyes front, hands stiffly at their sides. Captain Steve Strong, his face red and voice hoarse, strode up and down in front of them.

"And another thing!" he roared. "This court reprimand goes on your official records, and you're going to spend your time on guard duty like any common Earthworm that doesn't know its rocket from its pocket!" For nearly half an hour the cadets had listened to their unit instructor bawl them out. "When I think," he continued, "when I *think* of how close you three space brats came to getting kicked out of the Academy—" Words seemed to fail the young captain momentarily and he slumped on one of the bunks and looked at the row of cadets, shaking his head. "Why, in the name of Saturn, I ever accepted the responsibility of making you three bird brains into cadets is beyond me. And to think that when you first came here, I thought you had that special something to make you an outstanding unit. I even went out on a limb for you. And now you pull a stunt like this."

Behind them, the door opened and a short man, no more than five feet tall, but with the bulging muscles of a tiny giant stretching his bright-red enlisted man's uniform, stepped inside. He saluted Strong smartly.

"Chief Petty Officer Rush here to assign the *Polaris* unit to guard duty, sir," he announced.

"All right, Firehouse," said Strong, using the man's nickname. "Give it to them. Show them no mercy. By the rings of Saturn, they've got to be made to realize their responsibilities!"

"Yes, sir," said the thick little man.

Strong walked out of the room without another word, nor even a backward glance at the cadets.

As soon as the door closed, Timothy "Firehouse" Rush faced the three cadets, his beaten and battered face glowing with anticipation.

"Get this!" he growled. "When you're assigned to guard duty with the E.M.'s of the Solar Guard, you leave your immunity as cadets here in the Academy. From now on, you belong to me. And I'll tell you right now, there

isn't anything in space that I hate more, or think less of, than Space Cadets. You get special privileges you don't deserve because you wear that uniform. You get a chance to learn to be a spaceman and most of you muff it. I've got E.M.'s in my outfit that could blast circles around either of you—guys that deserve the chance you've got, and fouled out because they can't spell or don't know how to hold a cup of tea with their fingers the right way. When you come to me, it means you've done something bad. You're on your way out. And I'm going to try my best to see that you make it—*out*." He took a step forward and glared at them. "Report to me at 1800 hours and"—his voice dropped to a gravelly roar—"you better not be late—and you better not be early."

He spun on his heels in a perfect about-face and left the room.

"There is only one consolation," sighed Tom. "The *Capella* unit is getting the same thing we're getting."

"Here we go!" breathed Roger slowly.

"I've been thinking about quitting the Academy, anyway," growled Astro.

CHAPTER 4

"Halt!"

Roger growled the order into the darkness and unslung the paralo-ray rifle from his shoulder, bringing it around to firing position. "Advance and be recognized," he said flatly.

Nothing moved. Even the air seemed still.

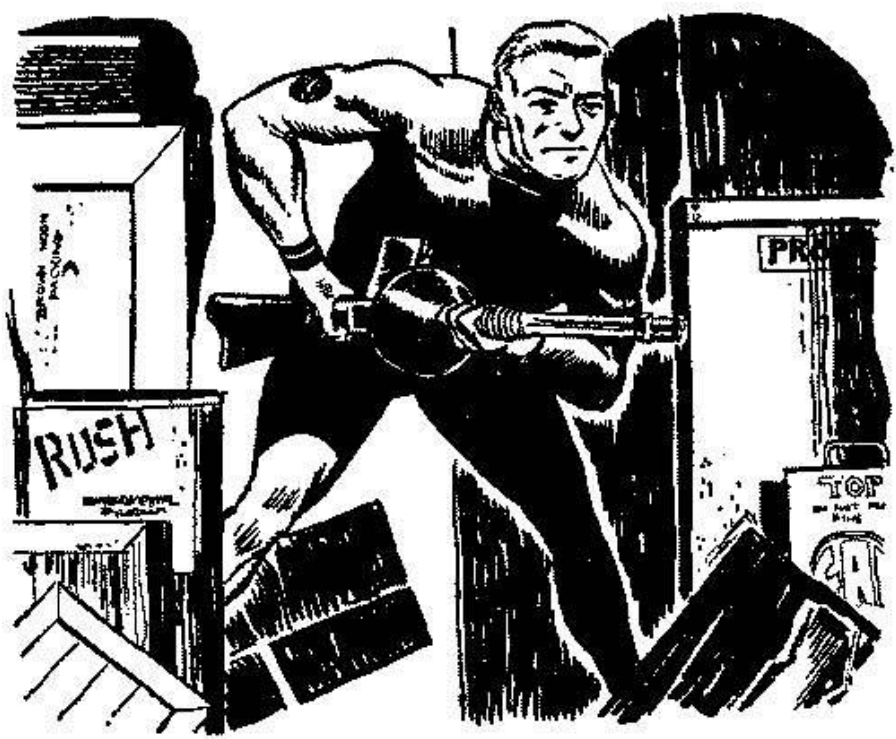
"Advance and be recognized," Roger ordered again. Still nothing moved. The cadet glanced around quickly in the direction of the guardhouse where he knew there was a communicator to the sergeant of the guard. Should he call for help? He decided against it and moved forward toward the noise he had heard, his finger poised on the trigger of the paralo-ray gun.

"Advance and be recognized," he called again. As he walked slowly between the huge packing cases piled outside the newly constructed hangar, he saw a shadowy movement to his left. He raised the deadly ray gun, and his finger tightened on the trigger.

"Advance and be recognized," he said over the sights of the gun.

"*Mee-ooo-wwww!*"

A tiny white kitten flashed out of a gap between two boxes and ran to his feet, purring, rubbing up against his space boots.



"Well, blast my rockets!" Roger laughed. He slung the gun over his shoulder and reached down to pick the kitten up in his arms. He began stroking its fur and making little soothing noises. He started back to the other end of his patrol post.

"You're a cute little fella," murmured Roger, nuzzling the kitten against his chin. "But you almost got blasted."

"Guard! Stand to!"

Startled, Roger whirled around to see Firehouse Tim behind him, his battered and beaten face clouded with rage. "Drop that animal at once," the petty officer roared.

Roger stooped over to let the kitten run free and it dashed away into a crack between the boxes and disappeared.

"Manning," began the enlisted spaceman, "the next time I catch you not attending to your duty, I will bring you up on charges of neglect! Carry on!" Rush spun on his heel and vanished into the darkness.

"Blasted muscle-bound squirt!" sneered Roger under his breath, shouldering his rifle and resuming his slow patrol outside the hangar.

For three weeks, Tom, Roger, and Astro, along with the three members of the *Capella* unit, had been spending close to eight hours a day on guard duty, eight to ten hours a day in classroom work, and the rest of the time studying.

They only averaged some two to three hours of sleep per day. They were dead tired but they stuck to their task doggedly, without complaint.

Around them, the work on Professor Hemmingwell's project had proceeded with amazing speed. The tunnel promised by Dave Barret had been finished in less than five days, with the rail for the monorail spur installed overhead as each yard of the shaft was completed. In the second week, scores of cars loaded with building materials began rolling into the deserted plain several miles away from Space Academy. Then, one morning, nearly a thousand construction workers arrived and built a hangar in thirty-six hours. No sooner had the huge building been completed than a tight guard had been placed around it. Specially designed identification tags were issued to the guards and workers on the project. Gradually the huge store of cases and boxes outside the hangar had been moved inside, with all but a few of the smaller ones remaining outside. The secret work inside the hangar was advancing rapidly, but this did not enter into the thoughts of the three cadets of the *Polaris* unit, nor of the *Capella* unit. The harsh discipline instituted by Tim Rush and the extra study necessary for the end-of-year exams had forced the cadets into a round-the-clock struggle not only to keep awake but to make the class promotion lists.

Roger paced off the required distance, wheeled smartly, and in so doing came face to face with Astro, who was patrolling another side of the hangar.

"I just saw Firehouse," said Astro quietly. "Did he catch you goofing?"

"Yeah," growled Roger. "I found a kitten and he walked up just as I was holding it."

Astro grinned. "I wouldn't be surprised if that pocket-sized giant didn't send that cat down there to tempt you."

"How's Tom?" asked Roger. Astro, in his patrol, came in contact with both unit mates.

"Sleepy. He's having a tough time with that chapter on space law. He didn't sleep at all last night."

"He better keep awake," said Roger. "That little fireman's got his rockets hot tonight. He'll blast Tom sure if—"

"Wait a minute," said Astro suddenly, looking off into the darkness. "What was that?"

Roger spun around, his rifle in his hands, ready to fire. "What is it?" he asked.

"I don't know," replied Astro in a whisper. "I thought I saw something move inside the hangar." He pointed to a large window. "Sort of a shadow against the frosted glass."

"Are you sure?"

"Of course I'm sure."

"I'll investigate. You get Tom and call Firehouse."

"Right," replied Astro, and raced down the path, alongside the hangar.

Grasping his rifle firmly, Roger inched toward a nearby door. He opened it

a crack, then flattened himself against the wall and watched Astro run toward the other end of the hangar. He saw the big Venusian say a few quick words to Tom and then rush off toward the guardhouse and the communicator. Tom waved to Roger, indicating that he would enter the opposite door of the hangar.

Roger dropped to his hands and knees and poked his head through the open door, peering around from one end of the huge dark chamber to the other. Then, taking a deep breath, he rose and stepped quickly inside. He closed the door behind him and stood still, listening for some sound.

Suddenly there was a flash of light from the opposite wall. Roger brought the paralo-ray gun up to his shoulder quickly and was about to fire when he realized that the light he saw was Tom opening the door on the opposite side. He breathed easier and waited until he could distinguish Tom's moving figure clearly, and then walked stealthily forward on a parallel line.

It was the first time Roger had been inside the hangar since it had been constructed and he was not sure of his way around, but gradually, the moonlight filtering in through the frosted plates of Titan crystal illuminated the huge forms of the machines around him.

He stopped and gasped. Without even realizing it, he emitted a long whistle of astonishment. Before him, reaching up into the shadows of the cavernous hangar, was the gleaming hull of a huge rocket ship. Two hundred feet long, the space vessel stood on its stabilizer fins, ladders and cables running into the open ports on both sides.

Roger waved to Tom, who had also stopped to stare at the giant spaceship, and the two of them met beneath the gleaming hull.

"What's the matter?" asked Tom. "Astro said you saw someone."

"*I* didn't see a blasted thing," said Roger in an exasperated whisper. "That big goof said *he* did."

"Wow!" said Tom, looking up at the ship. "This is some baby. I never saw one with lines like that before. Look at the funny bulges on the lower side of the hull."

"Sh!" hissed Roger. "I just heard something."

The two cadets stood silently, ears cocked for the slightest sound in the huge hangar. They heard a distinct tapping sound from somewhere above them.

"It's coming from inside the ship!" said Tom.

"You climb in the other port," said Roger. "I'll take this one."

"Right," said Tom. "And remember, if there's any trouble, shoot first and ask questions later."

"Check."

Tom slipped away from Roger and moved to the opposite side of the ship. Slinging the rifle over his shoulder, he climbed up the ladder silently toward the open port.

Making his way noiselessly through the air lock, he entered the huge main

deck of the ship and was able to see his way around by the faint glow of the emergency reflectors in the bulkheads. Tiny, sparkling gemlike pieces of specially coated Titan crystal, they glowed with steady intensity for many hours after having been exposed to any form of light. The deck was a mass of cables, boxes, tools, and equipment. Tom noticed curious-looking machines behind, what he judged to be, the odd bulges on the outside of the hull. Ahead of him, a hatch was partially open and he could see light streaking through the opening. He gripped his rifle tightly, finger on the trigger, and moved forward.

At the hatch he paused and looked into the next compartment. From the opposite side, he saw another hatch partially open and the outline of Roger's head and shoulders. Between them, a man was bending over a makeshift desk, copying information from a calculator and a set of blueprints. Tom nodded across to Roger and they both stepped into the compartment at the same time.

"Put up your hands, mister, or I'll freeze you so hard it'll take a summer on the Venus equator to warm you up," Roger drawled.

The man jerked upright, stumbled back from the desk, and moved toward Tom, keeping his eyes on Roger. He backed into the barrel of Tom's ray gun and stopped, terrified. He threw up his hands.

"What—wh—" he stammered and then caught himself. "How dare you do this to me?" he demanded.

"Shut up!" snapped Tom. "What are you doing here?"

"None of your business," the man replied.

"I'm making it my business," snapped Tom, pressing the gun into the man's back. "Who are you and how did you get in here?"

The man turned and looked Tom in the eye. "I have a right to be here," he stated coldly. "I'll show you my identification—" He brought his hands down and reached into his jacket, but Roger stepped over quickly and brought the barrel of his gun down sharply on the man's head. He slumped to the floor with a groan and was still.

"What did you do that for?" growled Tom.

Roger didn't reply. He reached down into the unconscious man's jacket and pulled out a small paralo-ray gun stuck in the top of his waistband. "Some identification," Roger drawled.

"Thanks, pal," said Tom sheepishly. "Let's search him. Maybe we can find out who he is."

As Roger bent over the fallen man, there was a commotion in the hangar outside the ship, followed by the sound of footsteps clattering up the ladders to the ports. Seconds later, Astro, followed by Tim Rush and a squad of enlisted spacemen, surged into the compartment. Rush stopped short when he saw the man on the floor.

"Great jumping Jupiter," gasped the petty officer, then whirled on Tom and Roger. "You space-blasted idiots!" he shouted. "You good-for-nothing harebrained, moronic dumbbells! Do you know what you've done?"

Tom and Roger stared at each other in amazement. Astro, standing to one

side, looked confused.

"Sure we know what we've done," declared Tom. "We found this guy in here copying secrets from some blueprints there on the desk and—"

"Copying secrets!" screamed Rush. "Why, you ding-blasted idiots, that's Dave Barret, the supervisor of this whole project!"

The man on the floor stirred and Firehouse ordered the squad of enlisted men to help him up. Just then, there was a bellow of rage from the hatch. Major Connel stepped into the compartment, his face a mask of disgust and anger.

"By the rings of Saturn!" he roared. "I've been sitting in the laboratory for the last hour and a half waiting for Dave Barret to come back with vital information, so we could get on with our experiments, and I find that you—you—" Connel was so furious, he could hardly talk.

He faced the three cadets. "There isn't anything in the books that says you should be disciplined for this—this—outrage, but believe me, Cadets"—his voice sounded like thunder in the small compartment—"this is the very last time I'll stand for this kind of stupidity."

Tom gulped but stepped forward bravely. "Sir," he said clearly, "I would like respectfully to submit the facts for the major's honest consideration. Neither of us has ever seen this man before and we found him copying information from these blueprints. When I challenged him, he said he was going to show us his identification. He put his hands in his jacket to get it, but Roger saw a gun in his belt, and thinking he was going to use it, Roger hit him on the head." Tom stopped, clamped his mouth shut, and stared the major in the eye. "That's all, sir."

Connel returned the stare, his eyes meeting those of the cadet for a full half minute. "All right," he said finally. "I guess it's just a case of misjudgment. But," he added scathingly, "in the face of the *Polaris* unit's record, you can understand my initial opinion."

As Dave Barret was assisted from the ship by the guards, Connel turned to Rush. "Firehouse!" he barked.

"Yes, sir?"

"See that these cadets don't cause any more mischief."

"Yes, *sir*."

"Dismissed," snapped Connel.

"All right, you space brats," bellowed Rush, "back to your patrol!"

Tom, Roger, and Astro left the ship and returned to their posts outside the hangar. Just before they separated to resume their endless march around the hangar, Tom winked at his unit mates. "At least we didn't get demerits," he said.

"Only because Connel couldn't find any reason to give them to us," sneered Roger. "What a busted rocket he's getting to be!"

"Yeah," agreed Astro quietly.

The three cadets began their round again, their eyes heavy with lack of

sleep, their arms and legs leaden, and their desire to become successful Space Cadets more determined than ever. But they didn't know they had started a chain reaction that would affect their very lives.

CHAPTER 5

"We passed!"

Tom turned away from the lists posted on the dormitory bulletin board and with his arms around Astro and Roger pushed through the knot of cadets.

"Yeow!" bellowed Astro.

"We made it," murmured Roger with a note of disbelief in his voice. "We made it!" And then, with the realization that he was still a Space Cadet for at least another term, he turned and began pounding Astro on the back. "You big Venusian ape, we made it."

Arm in arm, the three cadets strolled across the quadrangle and shouted to friends they passed. Occasionally they fell silent when they saw a boy carrying his gear to the supply building. These had failed to pass the rigid examinations.

Near the Tower of Galileo, the cadets came face to face with Tony Richards, McAvoy, and Davison. The two units looked at each other silently, remembering what had happened only four short weeks before. Then they all smiled and pounded each other on the back, congratulating each other on passing. Neither of the units had made top honors as a result of their fight and the trial, and having to spend so much time on guard duty, but they had passed and that was the most important thing. The boys all adjourned to the credit exchange and gorged themselves on Martian fruit pies covered with ice cream. Finally the party broke up when Tom remembered that he and his unit mates had to go on guard duty in half an hour.

"Well," said Tony Richards, rising, "we relieve you guys at midnight, so we might as well hit the sack right now. I've been waiting for this night for a long time."

"No study," sighed Davison. "What heaven! I feel as if I've been pardoned from prison."

The three boys of the *Capella* crew said good-by to Tom, Roger, and Astro, and walked off. Tom settled back in his chair and sighed. "Sure wish I was in their boots," he said. "I don't see how I'm going to get through tonight."

"Don't think about it," said Roger. "Only seven more days to go, and then we go on summer cruise with the *Polaris*."

"I can't wait to get back on that power deck," said Astro. "It'll be like going home."

Later, riding the new slidewalk to the area where the huge hangar had been built, they saw Captain Strong returning from the restricted area on the other

slidewalk. They hopped off their walk and waited for the young officer.

"I'm happy that you passed the exams, boys," he said. "And I want you to know Commander Walters and Major Connel think a lot more of you, though they wouldn't admit it, for the way you worked to make it."

"Thank you, sir," said Astro respectfully.

"You'll have to excuse us, sir," said Tom. "We've got to get out to the hangar and go on guard."

"Yes, and you'd better hurry," said Strong. "After that mix-up with Dave Barret, Firehouse Tim has his eye on you. Barret put up quite a fuss about it."

"I still don't see how Mr. Barret got in there," said Tom. "The fourth side of the hangar faces the hills, and we three covered the other three sides."

"However he got in," interrupted Strong, "he had a right to be there. And he also had a right to carry sidearms."

"Captain Strong," said Roger, "we've talked about it a lot, the three of us. And we decided that regardless of what Major Connel or Firehouse or Barret have said, we'd do the same thing, in the same way again."

"I think you're perfectly right, Manning. But don't quote me," said Strong, his voice serious. "This is one of the most important projects I've ever been connected with and—" He stopped suddenly. "Well, I can't tell you any more. That's how tight the security is on it."

"But everyone knows that it's a projectile that will home on a target, sir," said Tom.

"Yes, that was given to the stereos for general news release, but there are other factors involved, factors so important that they could revolutionize the whole concept of space flight."

"Wow!" said Tom. "No wonder they have this place so well guarded."

"Humph," snorted Roger. "I'd give up the opportunity of guarding this revolutionary secret for one night's good sleep."

"You'll get that tomorrow when we go off duty," said Tom. "And please, Roger, no blunders tonight, eh? Let's not take any chances of losing the summer cruise in the *Polaris*."

"Listen! You want to talk to the Venusian hick about that, not me," declared Roger. "He's the one that spotted Barret."

"But you hit him on the head," growled Astro. "You and your catlike reflexes." The big cadet referred to a recent letter he had seen in which one of the blond-haired cadet's many space dolls referred to his sensitivity as being that of a poet, and his dancing as smooth as the reflexes of a cat.

Roger spun on the big cadet. "You blasted throwback to a Venusian ape!" he roared. "If I ever catch you reading my mail again—"

"You'll what?" growled Astro. "You'll do just exactly what?" He grabbed Roger by the arm and held him straight out, so that he looked as if he were hanging from a tree.

Strong laughed and shook his head. "I give you three to the loving, tender care of Firehouse Tim," he said, hopping over on the moving slidewalk, back

to the Academy.

"Put me down, you overgrown idiot," Roger howled.

"Not until you promise not to threaten me with violence again," said Astro with a wink at Tom. The young curly-haired cadet doubled up with laughter. Finally Roger was lowered to the ground, and, though he rubbed his shoulder and grumbled, he was really pleased that Astro felt like roughhousing with him. The events of the last few weeks had so tired all of them that there had been no energy left for play.

Lightheartedly they stepped over to the slidewalk and were back on their way to the secret project.

* * * * *

Two huge wire fences had been built around the hangar area now, fences carrying a surge of paralyzing power ready to greet anyone that dared touch it. More than twenty feet high, the outer fence was buried six feet into the ground and was some hundred yards away from the hangar building itself, and fifty yards away from the second fence. The entire area was also guarded by radar. Should any unauthorized person or object be found in that area, an automatic alarm sounded and in fifteen seconds a hundred fully armed guards were ready for action. The men who had been cleared by security to work in and around the restricted area wore specially designed belts of sensitized metal that offset the effects of the radar. But the fence was still the untouchable for everyone.

Tom, Roger, and Astro had now been moved inside the hangar itself, to stand guard over the only three doors in the cavernous structure. They were armed with powerful heat blasters. These rifles were different from the paralo-ray guns they had used previously. A beam of light from the ray guns would only paralyze a human being, while the blaster destroyed anything it touched, burning it to a crisp.

As soon as the three cadets saw the change in armament, they knew they were guarding something so secret that human life, if it interfered with the project, would be disintegrated. Only once before, on a hunting trip to Venus, had they ever used the blasters, but they knew the deadly power of the weapons.

Nothing was said to them. Firehouse Tim had not posted any special orders or given them any special instructions. Each man who worked inside the hangar had to pass a simple but telling test of identification. On a table at each entrance to the hangar was a small box with a hole in the top. Each worker, guard, and person that entered the hangar had to insert a key into the hole and it made contact with a highly sensitive electronic device inside. The keys were

issued only by Major Connel or Captain Strong, and should anyone attempt to enter the hangar without it, or should the key not make the proper contact, lighting up a small bulb on the top of the box, Tom, Roger, and Astro had simple instructions: Shoot to kill.

This form of identification had been employed for some time now, even before the wire fence had been installed, but the really spectacular change was in the heat blasters each guard carried. This, more than anything else, impressed on everyone connected with the project, that to move the wrong way, to say the wrong thing, or to act in any suspicious manner might result in instant death.

It was a mark of trust that Tom, Roger, and Astro had been placed in such a highly sensitive position. They could kill a man and simply explain, "The light didn't go on!" and that would be the end of it. Neither of them knew that Connel had specifically requested that they be assigned to the day shift, when the hangar would be crowded with workers, who, intent on their assigned jobs, might be careless and leave themselves open to instant action on the part of the guards. Connel reasoned that Tom, Roger, and Astro, aside from their occasional antics in the Academy, would be more responsible than rough enlisted spacemen. The orders were specific: shoot to kill, but there was almost always one poor human being who would forget. In spite of the necessity for tight security, Connel felt he had to allow for that one percent of human failure. Secretly he was very happy that he had a crack unit like the *Polaris* to place in such a job. And the *Capella* unit had been entrusted with the same responsibility.

It was under such tight conditions that Astro, watching the least busy of the three entrances and exits, saw Dave Barret walk to a nearby public teleceiver booth, and, with the door ajar, place a transspace call to Venusport.

The booth was used often by the workers and Astro did not think much of it, until he accidentally overheard Barret's conversation.

"… Yeah, I know, but things are so tight, I can't even begin to get at it." Barret had his mouth close to the transmitter and his voice was low, but Astro could still hear him. "Yeah, I know how important it is to you, but I can be burned to a cinder if I make one false move. You'll just have to wait until I find an opening somewhere. Good-by!"

Barret switched off the teleceiver set and stepped out of the booth to face the muzzle of Astro's blaster. "Stand where you are!" growled the big cadet.

"What, why you—" Barret clamped his mouth shut. There was a difference between being frozen and being blasted into a crisp.

Astro reached over and touched the button that would alert a squad of guards, Major Connel, and Tim Rush. In a flash the alarm sounded throughout the hangar and troopers stormed in brandishing their guns. Firehouse Tim and Connel arrived seconds later. They skidded to a stop when they saw Barret with his hands in the air and Astro's finger on the trigger of the blaster.

"By the blessed rings of Saturn!" roared Connel. "Not again."

"Put down that gun," demanded Rush, stepping forward quickly. Astro lowered the gun and Barret dropped his hands.

"What's the meaning of this?" demanded Connel, his face reddening with rage.

Astro turned and looked the major right in the eye. "Major," he said calmly, "this man just made a teleceiver call—a transspace call to Venusport."

"Well, what about it?" cried Barret.

"Sir," said Astro, unruffled by Barret's screaming protest, "this man spoke of getting at something, and that he was unable to do so, because he might be burned to a cinder. And the other party would have to wait until he found an opening."

"What!" exclaimed Connel, turning to look at Barret. "What is the meaning of this, Barret?"

"Why, that knuckle-headed baboon!" yelled Barret. "Sure, I made a transspace call to Venusport—to the Venusian Atomic By-Products Corporation."

"What was the call about?" demanded Connel.

The guards had not moved and the workers in the hangar were now gathering around the small knot of men by the teleceiver booth.

"Why—I—"

"Come on, man!" shouted Connel. "Out with it."

"I called about getting a new timer for the projectile fuel-injection system," snapped Barret. "The timer is too slow for our needs. I wanted to adjust it myself, but the projectile is so compact, I can't get at it without taking a chance of getting doused by the fuel."

"What about that remark about finding an opening?" growled Connel.

"What's going on here?" called Professor Hemmingwell as he bustled up to the group. "Why aren't these men working? Dave, why aren't you up there —?"

"Just a minute, Professor!" Connel barked, and turned back to Barret. "Go ahead, Barret."

"They can't make a new timer until I find a way of installing it without taking apart the whole projectile," said Barret, adding sarcastically, "in other words, Major—finding an opening."

"All right," barked Connel. "That's enough." He turned to the assembled workers. "Get back to work, all of you." The men moved away and Firehouse Tim led the guards back to their quarters. Professor Hemmingwell, Barret, and Astro remained where they were.

Connel turned to Astro. "Good work, you dumb Venusian," he snorted. "But so help me, if you had burned this man, I, personally, would've buried you on a prison rock." The major then turned to Barret. "As for you—" he snarled.

"Yes?" asked Barret coolly.

"You make one more call like that over a public teleceiver," Connel roared,

"especially a transspace call that's monitored by the idiots in the teleceiver company, and I'll send *you* to a prison asteroid!"

"Now, Major," said Hemmingwell testily, "I don't think you should speak to Dave that way. After all, he's a very valuable man in this project."

"How valuable would he be if this cadet had gone ahead and blasted him?" snarled Connel.

"It's just another example of how these stupid boys have obstructed my work here," replied Hemmingwell angrily. "I can't see why they have to interfere this way. And they always pick on poor Dave."

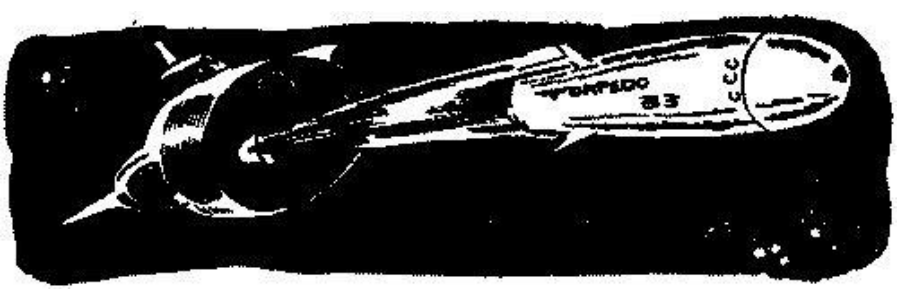
"Yes," snarled Barret. "I'm getting pretty tired of being a clay pigeon for a bunch of brats." He turned to Astro. "You'll have a head full of socket wrench if you mess with me again."

"You'll get a receipt, Barret," growled Astro. "Paid in full."

"All right, break it up," growled Connel. "Back to your post, Astro. And you get back to work, Barret, and remember what I said about using that public teleceiver."

Barret and Hemmingwell walked off, with the little professor talking rapidly to the younger scientist, trying to calm his anger.

Astro, Tom, and Roger were extraordinarily strict about the exit of the workers that night and there was angry muttering in the ranks of the men who wanted to get home. But the three cadets refused to be hurried and made each man perform the ritual of getting out to the letter. Still later, after they had been relieved by the *Capella* unit and had told them of the incident between Astro and Barret, they headed back to the Academy dormitory more tired than they had ever been before in their lives. Thirty seconds after reaching their room, they were asleep in their bunks, without undressing or washing. Like whipped dogs, they sprawled on their bunks, dead to the world.



CHAPTER 6

Sabotage!

Major Connel, Commander Walters, Captain Strong, Professor Hemmingwell, and Dave Barret stared unbelievingly at the tangle of wires and smashed tubes on the main deck of the sleek spaceship.

"Get every man that has been in this hangar during the last twenty-four hours and have him brought under guard to the laboratory for psychographs." Commander Walters' face was grim as he snapped out the order.

Professor Hemmingwell and Barret got down on their hands and knees and examined the wrecked firing device carefully. After a long period of silence, while Strong, Walters, and Connel watched them pawing through the tangle of wires and broken connections, Hemmingwell stood up.

"It can be replaced in twelve hours," he announced. "I believe that whoever did this either didn't know what he was doing, or it was an accident."

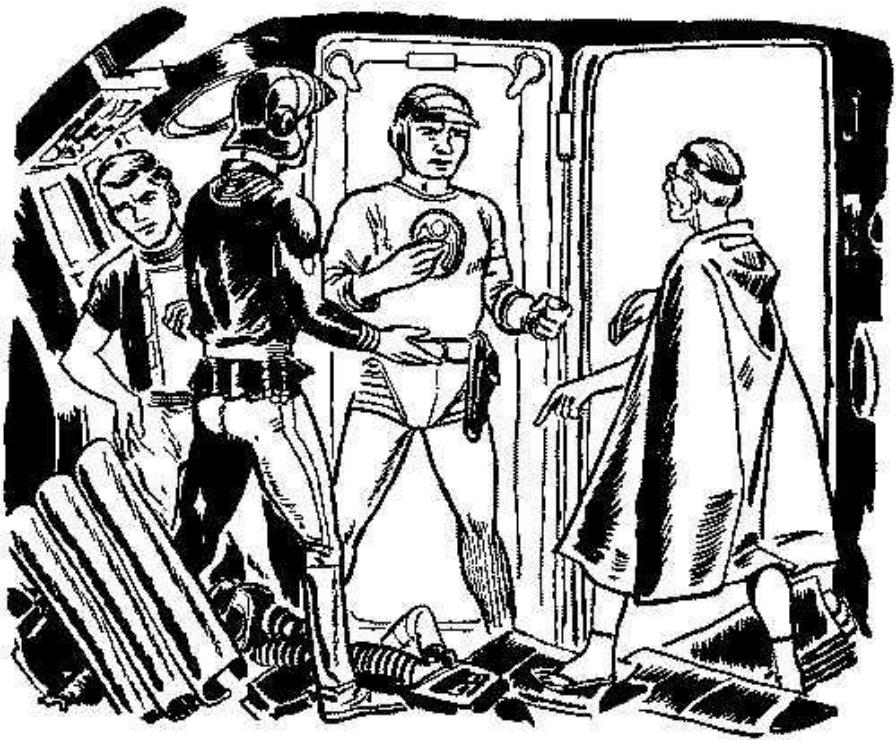
"Explain that, will you, Professor?" asked Strong. "I don't understand."

"This is an important unit," Hemmingwell replied, indicating the wreckage, "but not the most important part of the whole unit. Anyone who really knew what he was doing and wanted to delay the project could have done so much more easily by simply destroying this." Hemmingwell held out a small metallic-looking cylinder.

"What is that, Professor?" asked Barret.

"Don't you know?" asked Connel.

"No, he doesn't," snapped Professor Hemmingwell. "This is something I developed that only the commander and myself know about."



"So, if you and Commander Walters are the only ones that know about it," said Steve Strong slowly, "then a saboteur would have thought it unimportant and concentrated on the rest of the mechanism."

"Looks that way," mused Connel. "But there is still the possibility that it was an accident, as the professor said."

Strong looked at Connel questioningly and then back to the wreckage. The unit had been hurled from the upper deck of the spaceship, down to the main deck, and it looked as if someone had trampled on its delicate works.

"I'll have a crew put right to work on this," said Hemmingwell.

"Commander," Connel suddenly announced, "I'm going ahead with my trip to Mars to inspect the testing receivers. I don't think this incident is serious enough for me to delay leaving, and if Professor Hemmingwell and his men can get this unit back in operation in twelve hours, then there's very little time lost and we can go ahead with the tests on schedule."

"All right, Lou," said Walters. "Do whatever you think best. I'll have a ship made ready for you at the Academy spaceport any time you want to leave."

Connel nodded his thanks. "I think I'll take the *Polaris*, with Cadet Corbett along as second pilot," he said. "I'm getting too old to make a solo hop in a scout all the way to Mars. I need my rest." He grinned slyly at Walters.

"Rest," Walters snorted. "If I know you, Lou Connel, you'll be up all night working out standard operational procedures for the space projectiles." He turned to Strong. "He's so sure this will work that he's already writing a preliminary handbook for the enlisted personnel."

Strong turned and looked at the major, amazed. Every day he learned more and more about the space-hardened veteran.

Connel turned to Strong. "Will you give Corbett the order to be ready at 0600 hours tomorrow morning, Steve?" he asked.

"Certainly, Lou," replied Strong.

As the major turned away, Walters called after him, "Take it easy."

Leaving Hemmingwell and Barret to take care of clearing away the wreckage, Strong and Walters climbed out of the ship, left the hangar, and headed for the Academy.

"Do you think it was sabotage, sir?" asked Strong, as they rode on the slidewalk.

"I don't know, Steve," said the commander. "If that special unit of Hemmingwell's had been damaged, I would say it might have been an accident. But the things that were damaged would have put the whole works out of commission if we didn't have that unit."

"Yes, sir," said Strong grimly. "So the man who did it thought he was doing a complete job."

"Right," said Walters. "Assuming that it was sabotage."

"Anyone you suspect?"

"Not a living soul," replied Walters. "Every man in that hangar has been carefully screened by our Security Section. Background, history, everything. No, I think it really was an accident."

"Yes, sir," replied Strong, but not with the conviction he would like to have felt.

* * * * *

Pat Troy had been Professor Hemmingwell's foreman for nearly two years. It was his job to read the complicated blueprints and keep the construction and installation work proceeding on schedule. Troy lacked a formal education, but nevertheless he could read and interpret the complicated plans which the professor and his assistants drew up, and transform their ideas into actual mechanical devices. Professor Hemmingwell considered himself fortunate to have a man of Troy's ability not only as a co-worker, but as a close friend.

But Dave Barret did not like Troy, and he made this dislike obvious by giving Troy as much work as possible, mainly tasks that were beneath his ability, claiming he only trusted the trained scientists. Barret put the professor in the position of having to defend one to the other. He needed both men, both being excellent in their respective fields, and found it more and more difficult to maintain any kind of peaceful relationship between them. Barret, as Hemmingwell's chief assistant and supervisor of the project, was naturally superior in rank to Troy, and made the most of it. A placid, easy-going man, Troy took Barret's gibes and caustic comments in silence, doing his work and getting it finished on time. But occasionally he had difficulty in controlling his resentment.

The day after the accident, or sabotage attempt on the firing unit, the hangar was quiet, most of the workers still being psychographed. Troy, one of the

first to be graphed, had been detained by the technicians longer than usual, but was now back at his bench, working on the unit. This incident gave Barret the opportunity he was looking for, and as he and Professor Hemmingwell strode through the hangar, he commented casually, "I hate to say this, sir, but I don't like the way Troy has been acting lately."

"What do you mean, Dave?" asked Hemmingwell.

"I depend a great deal on instinct," replied Barret. "And as good as Troy's work has been, I feel the man is hiding something."

"Come now, Dave," snorted the professor. "I've known him a long time. I think you're being a little harsh."

As Barret shrugged and didn't reply, a troubled expression crossed Hemmingwell's face. "But at the same time," he said slowly, "if you have any reservations, I don't suppose it would hurt to keep an eye on him."

"Yes!" agreed Barret eagerly. "That's just what I was thinking."

They reached the workbench where Troy, a small man with powerful arms and shoulders, was working on a complicated array of wires and vacuum tubes. He looked up, nodded casually at the two men, and indicated the instrument.

"Here it is, Professor," he said. "All ready to go. But I had a little trouble fitting that coil where the blueprints called for it."

"Why?" Barret demanded. "I designed that coil myself. Isn't it a little odd that a coil I designed, and the professor O.K.'d, should not fit?"

"I don't care who designed it," said Troy easily. "It didn't fit where the blueprint indicated. I had to redesign it."

"Now, now," said Professor Hemmingwell, sensing trouble. "Take it easy, boys."

"Professor," Barret exploded, "I insist that you fire this man!"

"Fire me!" exclaimed Troy angrily. "Why, you space crawler, you're the one who should be fired. I saw you come back to the hangar the other night alone and…"

"Of course I did!" snapped Barret. "I was sent down here to get information about—" He stopped suddenly and eyed Troy. "Wait a minute. How could you see me down here? What were you doing here?"

"Why—I—" Troy hesitated. "I came down to check over some equipment."

"Why were you detained at the psychograph tests this morning?" demanded Barret.

"None of your business!" shouted Troy. "I was doing my job. That's all."

"I'll bet," snapped Barret. "Professor, here is your sabotage agent. Who are you working for, Troy?"

"None of your business," stammered Troy, seemingly confused. "I mean, I'm not working for anyone."

"There! You see, Professor!" shouted Barret.

"I think you'd better explain yourself, Pat," said the professor, looking troubled and suspicious. "Why were you detained so long this morning?"

"They were asking me questions."

"What kind of questions?" demanded Barret.

"I'm not allowed to tell you."

"What were you doing here the other night?" pursued Barret. "The night you saw me here."

"I came down to check our supplies. I knew that we were running short on certain equipment."

"What kind of things?" demanded the professor.

"Well, the timers on the oscillators," Troy replied. "I knew we would need them for the new units you and Commander Walters were planning."

"Guard!" shouted Barret suddenly. "Guard!" He turned and called to Roger and Astro, who were standing guard at the doors. They both came running up, their blasters held at ready.

"What is it?" demanded Astro. "What's going on here?"

"Arrest that man!" shouted Barret. Astro and Roger looked questioningly at Troy. They did not know him personally but had seen him around the hangar and knew that he worked closely with the professor and Barret.

Still vaguely distrustful of Barret's behavior, Astro turned to Hemmingwell. "How about it, Professor?" he asked. "Do we haul this guy in?"

Hemmingwell looked at Troy steadily. "Pat, you knew about that new unit I was building?"

"Yes, sir," replied Troy forthrightly. "I accidentally overheard you and Commander Walters discussing it. From what you said about it, I knew you would need new timers for the oscillators—"

Roger and Astro had heard about the vital unit that had not been destroyed, and realized that Troy was admitting to knowledge he shouldn't have had. Roger raised the blaster menacingly. "All right, buster!" he growled. "Move this way and move slowly."

"Professor," exclaimed Troy, "you're not going to let them—!"

"I'm sorry, Pat," said the professor, a dejected look in his eyes. "I have nothing to do with it now. You should have told me that you knew about the new unit. And the fact that you were here the night it was destroyed, well—" He shrugged meaningfully and turned away.

"All right, buster," growled Astro, "do you move or do I move you? It makes no difference to me."

Troy took a look at the blasters leveled at him and silently walked between them to the hangar door. Barret and Professor Hemmingwell remained at the workbench, following the trio with their eyes.

Later, after Troy had been safely locked in the Academy brig, Firehouse Tim Rush sat at his desk in the small security shack taking down the two cadets' reports.

"…. And upon the orders of Dave Barret and Professor Hummingbird—" Roger was saying.

"Hemmingwell," snapped Firehouse. "*Hemmingwell*."

"—Hemmingwell"—nodded Roger with a wink at Astro—"we brought the suspect to the officer of the guard, Firehouse Tim Rush."

"Can that Firehouse, ya squirt!" growled Rush. "Only my friends can call me that. And you two are not in that classification."

"O.K., Fireman," said Roger. "I can call you Fireman, can't I? After all, you are a pretty hot rocket, and—"

"Get back to your posts!" roared Firehouse Tim in his loudest voice.

Roger and Astro grinned and hurried out of the small building. Before resuming their posts in the hangar, the two cadets stopped at an automatic soda dispenser. As they drank slowly, they looked around the hangar. The project was back in full operation now. The workers that had been cleared had heard about the arrest of their foreman, and there seemed to be more talk than work.

Dave Barret walked over to Roger and Astro. Nodding in a surprisingly friendly fashion, he said, "I want to commend you two boys on your good work a while ago. I think that traitor would have tried anything if you hadn't been there. He might even have tried to kill me or the professor."

Roger and Astro mumbled curt thanks for the compliment.

Barret looked at them quizzically. "No need for us to be angry with each other," he said smoothly. "I realize that when we had our two little run-ins you were carrying out your duties, and I apologize for behaving the way I did. How about it? Can we shake and forget it?" He held out his hand. Astro and Roger looked at each other and shrugged, each in turn, taking the young man's hand.

"You know," said Barret, "I've heard a lot about you three cadets of the *Polaris* unit. Especially you, Manning. I understand that you know almost as much about electronics as your instructor at the Academy."

Roger grinned shyly. "I like my work."

"Well, blast my jets!" roared Astro. "That's the first time I have ever heard Manning accept a compliment gracefully." The big Venusian turned to Barret. "He is not only the finest astrogator in the whole high, wide, and deep," he said sincerely, "but he could have had a wonderful career in electronics if he didn't want to be a rocket jockey with me and Corbett."

"Is that so?" murmured Barret politely. "Well, Manning, you must have some ideas about the work that's going on here."

"I sure have," said Roger. "And I see a lot of things here that could be done a lot easier."

"Hum," mused Barret. "You know something. I think I might be able to relieve you two of guard duty. After all, if Corbett can get out of it, I don't see why I can't put your talents to work for us here. How about it?"

Both boys almost jumped straight up in the air.

"That would be terrific, Mr. Barret!" exclaimed Astro.

"Call me Dave, Astro. We're friends now, remember?"

"Sure, Dave," stuttered Astro. "But listen, we'd do anything to be taken off

this detail and get Firehouse off our necks."

Barret smiled. "All right. I'll see what I can do." He turned and walked off, giving them a friendly wave in parting.

Astro and Roger could hardly believe their luck. They returned to their posts and took up guard duty again with light hearts.

In his small private office, Barret watched them through the open door to the hangar and then turned to his desk, to pick up the recently installed private audioceiver. He asked for a private number in a small city on Mars, and then admonished the operator, "This is a security call, miss. Disconnect your circuit and do not listen in. Failure to comply will result in your immediate dismissal and possible criminal prosecution."

"Yes, sir," replied the operator respectfully.

There was a distinct click and Barret heard a gruff voice.

"Hello?"

"This is Barret," the young designer whispered. "Everything's going fine down here. I just had the foreman arrested to throw them off the track, and I have a plan to get rid of two of these nosy cadets." Barret listened a minute and then continued. "Connel and the other cadet, Corbett, have gone to Mars to inspect the receivers. Don't worry about a thing. This ship will never get off the ground. And if it does, it will never fire a projectile."

Barret hung up and returned to the open door. He waved at Roger and Astro on the other side of the hangar and the two cadets waved back.

"Like lambs to the slaughter," he said to himself.

CHAPTER 7

"Sound off, Corbett!"

Seated in the pilot's chair on the control deck of the rocket cruiser *Polaris*, Major Connel bellowed the order into the intercom as he scanned the many dials on the huge control board.

"One minute to touchdown, sir," reported Tom over the intercom from the radar bridge of the *Polaris*.

"One minute to touchdown," repeated Connel. "Right!"

Connel reached for the switches and levers that would bring the giant ship to rest on the red planet of Mars. Even after his many years in the Solar Guard and thousands of space flights, landing a rocket ship was still a thrill to the veteran spaceman, and knowing that he had a good man on the radar deck made it even more exciting and demanding of his skill.

"Decelerate!" yelled Tom over the intercom.

Connel shut down the main drive rockets and at the same time opened the nose braking rockets. "Braking rockets on!" he yelled.

"One thousand feet to touchdown," said Tom.

Connel watched the dials spinning before him.

"Seven hundred and fifty feet to touchdown," reported Tom.

"Keep counting, Corbett!" yelled Connel enthusiastically.

"Five hundred feet!"

Connel quickly cut back the nose braking rockets and again opened the main drive rockets as the ship plummeted tailfirst toward the surface of Mars.

"Two hundred feet!" came the warning call over the intercom.

Connel glanced up at the teleceiver screen over his head that showed the spaceport below. The concrete runways and platforms were rushing up to meet the giant ship. He opened the main rockets full.

"Seventy-five feet! Stand by!" yelled Tom.

Connel's hands flashed over the control panel of the ship, snapping switches, flipping levers, and turning dials in an effort to bring the ship to a smooth landing. There was a sudden roar of rockets and then a gentle bump.

"Touchdown!" roared Connel.

He flipped off the main switches on the control board, spun around in his chair, and noted the time on the astral chronometer. "Touchdown Marsport, 2117!" he announced.

Tom clambered down the ladder from the radar bridge and immediately noted the time of arrival in the logbook. He turned around and saluted the

major sharply. "All secure, sir," he said.

"Congratulations on a smooth trip, Corbett," Connel said. "And thanks for letting me take her in. I know it's unusual to have the senior officer take over the ship, but once in a while I get the urge to put my hands on those controls and—well—" Connel paused, fumbling for words.

Tom was so startled by the major's stumbling attempt to explain his feelings, he felt himself blush. He had always suspected the major of being a rocket jockey at heart and now he was certain. But he would never tell anyone, not even Roger and Astro about this incident. It was something he knew that he himself would feel if he ever got to be as old as Major Connel and had reached his position. There passed between the officer and the cadet a sudden feeling of mutual understanding.

"I understand, sir," said Tom quietly.

"Dismissed!" roared Connel, recovering his composure again, and very conscious that he had exposed his innermost feelings to the cadet. But he didn't mind too much. Tom Corbett had proven beyond the shadow of a doubt that he had the stuff true spacemen are made of, and because of this, Connel could feel as close to him as a man near his own age. There was never a breed of men who were drawn so close together in their love of work as the spacemen and there was no need for further explanation.

When they had climbed out of the *Polaris* and stepped on the landing ramp at Marsport, Connel and Tom saw that the ground crews were already checking over the afterburners and exhaust tubes of the ship. A young Solar Guard lieutenant, wearing a decidedly greasy uniform, snapped to attention before Connel.

"Lieutenant Slick at your service, sir," he announced.

"Lieutenant," bawled Connel, "your uniform is filthy!"

"Yes, sir, I know it is, sir," replied the young officer. "But I was overhauling a firing unit this morning, sir, and I guess I got a little dirty."

"That is enlisted man's work, sir," stated Connel. "You are an officer."

"I know, sir, but—" Slick stammered. "Well, sir, once in a while I like to do it myself."

Tom turned away, hiding a smile. The young officer was expressing the same feelings Connel himself had uttered just a few minutes before. Connel cleared his throat, and with a sidelong glance at Tom and a wink, dismissed the young officer, ordering him to have a jet car sent for them right away.

"Take mine, sir," said the young officer, happy to have escaped Connel's wrath so easily. It was not too long ago that he had been a cadet at the Academy and he remembered all too clearly what Connel could do when he was mad.

When the jet car was brought up, Tom slipped behind the wheel, and with Connel seated beside him, he sent the sleek little vehicle roaring across the spaceport to the main administration building.

Inside the gleaming crystal building, Connel and Tom were escorted by a

Space Marine guard to the office of the spaceport commander, Captain Jim Arnold. He and Connel knew each other well, and after quick greetings and the introduction of the young cadet, Connel asked for the latest reports on the projectile receivers.

"Lou, I've got good news for you," announced Arnold. "We've completed the receiver ramps for the test. As soon as your ship is ready to fire her cargo projectiles, we can receive them."

Connel's face showed the surprise he felt. "Why, Jim, that's the most amazing news I've ever heard!" he exclaimed. "How did you do it?"

"Through hard work," replied Arnold, "and the efforts of a young officer named Slick. He handled the whole thing."

"Slick!" exclaimed Connel. "I just bawled him out for wearing a dirty uniform."

"He's responsible for our success," asserted Arnold. "And what's more, those receivers can be taken apart and reassembled again in less than ten minutes."

"Incredible," gasped Connel. "I've got to see those things right away. Come along, Corbett."

Tom followed the major out of the office and back to the jet car. They were about to drive off to the opposite end of the field when they heard someone shout to them. Tom stopped the speedy little car and Connel turned around to see who had called them.

Carter Devers rushed up and greeted the Solar Guard officer enthusiastically. "Major, this is a surprise."

"Hello, Carter. What are you doing here?" Connel asked bluntly.

"Had some business here on Mars," said Devers. "I've finished and I'm on my way back to Earth. You wouldn't, by any chance, be going back soon, would you? I saw the Solar Guard cruiser come in and one of the attendants told me that they were preparing it for immediate blast-off—"

"Of course, Carter," Connel said briskly. "Get in. We're just going over to inspect the receivers and then we'll be heading back."

Devers jumped into the jet car and Tom headed across the broad expanse of the spaceport.

Connel turned to Devers and said enthusiastically, "Can you imagine, Devers? Some young officer here at Marsport has worked out a way to assemble and transport the receivers in a fantastically small amount of time."

"That's amazing," said Devers. "I'd like very much to see them." He looked at Tom and said, "Incidentally, who is your young friend?"

"Oh, sorry," replied Connel. "This is Cadet Corbett of the *Polaris* unit. No doubt you've heard of them. He and his unit mates manage to get into more trouble than all the monkeys in the Venusian jungle."

Carter laughed. "I've known Lou Connel long enough to know that when he says something like that about you, son, he thinks very highly of you."

"Thank you, sir," replied Tom, not knowing what else to say.

While Connel and Devers talked of the problems surrounding the projectile operation, Tom concentrated on his driving. He was following directions given him by Jim Arnold to reach the testing grounds and this made it necessary for Tom to drive right through the center of the spaceport, weaving in and out of the dozens of spaceships parked on the concrete ramps.

Tom swept past them, driving expertly, heading toward a group of concrete blockhouses enclosed by a fence which he knew would be the testing area. Beside the fence, a short, stubby-nosed spaceship was loading cargo, and beneath the vessel, two huge jet trucks were backing into position. Tom steered the car up to the gate and stopped at the signal of an armed guard. Connel, Devers, and Tom stepped out of the car and waited for a minute, and then young Lieutenant Slick appeared, wearing a clean uniform.

Slick checked their names off against a list he carried and then drew Connel to one side. "I'm sorry, sir," he said, just out of Tom and Dever's hearing, "I can't allow the cadet inside this area."

"Why not?" asked Connel. "I'll vouch for him."

"I'm sorry, sir," said Slick. "Those are my orders. I can let you and Mr. Devers in, but not Cadet Corbett." He showed Connel a list of names: Connel, Strong, Hemmingwell, Walters, Devers, and Barret. They were the only names on it.

Connel nodded. "I understand," he said and turned to Tom. "You'll have to stay here, Corbett," he called. "Wait for me in the car."

"Yes, sir," replied Tom and hopped back in the jet.

He backed out through the gate, pulling up alongside the fence near the stubby-nosed freighter. When Connel and Devers, escorted by Slick, had disappeared behind a blockhouse inside the restricted area, Tom casually walked over to watch the loading operation of the spaceship. A few of the workers stopped when he walked up, and recognizing his cadet uniform, greeted him warmly.

"Space Cadet, eh?" said one of the men. "Sure wish I could get my boy in the Academy."

"Me too," said another man. "All I hear from morning until night is Space Academy—Space Academy."

Tom smiled his appreciation of their admiration. While he answered their questions about the training school of the Solar Guard, they continued working. After a while the conversation turned to the restricted area behind the fence.

"Some pretty important work going on in there," said one of the men. "But how come they wouldn't let you go in?"

"I haven't been cleared by security," replied Tom. "It's top secret."

"Secret," said a man who had just joined the group. Tom had noticed him before, climbing out of one of the huge jet trucks parked near the gate. "Why, there ain't nothing secret about what's going on in there," he continued.

"Why do you say that?" asked Tom alertly.

"Why, we all know about it, Cadet," said one of the first men Tom had spoken to. "They're building receivers for cargo projectiles."

Tom gulped in surprise. "But how did you know?" he asked.

"Why, it's the only thing we've been talking about down at the garage and at Sloppy Sam's, the jet-truckers hangout," replied the trucker. "If this thing works, surface transportation will be finished."

"That's right," asserted another worker. "The whole industry will be wiped out overnight. Nobody will have anything trucked any more. Cargo'll be loaded into a projectile and shot off into space to a passing freighter. Then the freighter carries it to its destination and shoots it back down to a receiver."

"But how could you know all this?" asked Tom. "It is one of the Solar Guard's most closely guarded secrets."

"It's all over Mars," declared the truck driver with a derisive laugh. "Why, everybody knows it."

Suddenly one of the men yelled and pointed toward the fence. The jet truck parked near the gate was rolling forward slowly. As Tom and the men watched in horror, the giant vehicle crashed through the fence and rolled into the restricted area, picking up speed.

In a flash Tom was inside the jet car, driving right through the hole in the fence and speeding after the huge machine. Around him, guards were running after the truck, shouting frantic warnings. Far ahead of him, Tom saw Major Connel and Devers standing near several receivers lined up outside a blockhouse. The truck was rolling straight toward them. Hearing the shouts of alarm, the two men turned and saw their danger. Devers immediately jumped into the safety of the blockhouse, but Connel stumbled and fell heavily. Tom's blood ran cold. He saw that the major had struck his head against one of the receivers and he lay on the ground, dazed and unable to move.

Tom jammed the accelerator of the tiny jet car to the floor and shot ahead like a rocket. He was alongside the truck now, but the distance between the huge machine and Connel was narrowing rapidly. Tom clenched his teeth and urged the little car on faster. He knew that there was not enough time for him to jump into the truck and pull the brake. There was only one thing he could do.

Regaining his senses, Connel tried to crawl to safety, but there was no time. He braced himself for what he knew would be instant death, and then to his amazement he saw Tom's jet car swerve sharply in front of the runaway truck.

Tom swerved the jet car in front of the runaway truck

There was a wrenching crash of metal, a shrill scream of skidding tires, climaxed by a thunderous roar. After that, deathly silence.

For a second Connel stood frozen in horror, staring at the overturned truck and the tangle of twisted metal that was the jet car. Then he lunged forward with a frantic cry.

"Corbett! Corbett!"

CHAPTER 8

"Tom! Tom!"

Connel knelt beside the limp form of the Space Cadet, calling frantically, praying that the boy would be miraculously unhurt, yet fearing the worst. A few moments later Tom groaned and opened his eyes.

"Did I—did I stop the truck?" he asked weakly.

"You sure did, son!" said Connel, breathing a sigh of relief. "And thank the lucky spaceman's stars that you're all right. I don't see how you got out alive."

Tom sat up. "I jumped from the jet car at the last minute," he said. "I guess I must have bumped my head." He looked down at his torn uniform. "Wow," he said. "Look at me."

"Don't worry about it." Connel laughed. He turned to Lieutenant Slick who had just rushed up.

"Lieutenant, I want a complete check on the men who were standing outside the fence when that truck ran away."

"Yes, sir." The young lieutenant patted Tom on the shoulder. "Good work, Cadet," he said and started away.

Tom grinned his thanks at the young officer and struggled to his feet. "Sir," he said to Connel, "I think I should explain something about that truck."

"The truck!" cried Connel. He turned and called, "Lieutenant, come back here." The young officer turned back. "Go ahead, Tom," said Connel.

While Tom told his story of the truck having been parked near the gate, and having started to roll by itself, Connel and Slick listened intently. Quietly Devers joined them. Finally, when Tom had finished, Connel rubbed his chin thoughtfully and stared at the truck which was being examined by a swarm of guards.

A few moments later the sergeant in command reported to Connel that they had found a worn clutch plate that could have slipped and caused the truck to roll of its own accord, especially if the motor was turning over.

Connel nodded and then ordered, "Get the driver over here."

The man that had spoken to Tom about the secret project came forward under guard. He was thoroughly frightened and Connel was aware of it. "Relax, friend," he said. "I just want to ask you one question."

"Yes, sir," gulped the truck driver.

"Was there anything wrong with your truck?" demanded Connel.

"Yes, sir," replied the driver. "I had a slipping clutch."

Connel turned abruptly to Lieutenant Slick. "All right, Slick, release this man and get that fence back up. I'm satisfied that it was an accident."

"Yes, sir," replied Slick, and left the group with the grateful driver.

Connel relaxed for the first time and turned to Carter Devers who had been standing by silently. "Well, Carter," he said, "see what I meant about the *Polaris* unit getting into trouble! Blast it, if they don't start it, they sure can finish it." He turned to Tom. "Son, you deserve some time off. Go back to the Spacelanes Hotel in Marsport and get yourself a room. Just forget everything and relax. And get a new uniform, too."

"And send the bill to me," Devers suddenly spoke up. "It's the least I can do."

"Thank you, sir," said Tom. "I could sure use a little sleep."

Hitching a ride on a jet sled, Tom rode over to the administration building where he managed to clean up enough to make himself presentable at the hotel. Later, as he rode along the curving canal in a jet cab into the main section of Marsport, he relaxed for the first time and enjoyed the sights.

The city of Marsport was built in a hurry—at least, the old section of the city was. Like many other planets, when first colonized by the early great conquerors of space several hundred years before, the city grew out of immediate need, with no formalized plan.

Years later, when the Solar Alliance was formed and there was uniform government all over the solar system, the citizens of Mars began to regard their ugly little capital with distaste. A major effort was made to clean up its squalid appearance and huge cargoes of Titan crystal were shipped to Mars for modern construction. Now, as Tom Corbett rode in comfort along a speedway bordering one of the ancient canals, he approached the city with a vague feeling of awe. Gleaming towers, reflecting the last rays of the setting sun, loomed just ahead of him, and the wavy lines of heat rising out of the sandy deserts seemed to make the buildings dance. It was a sunset ballet that never failed to thrill even the oldest Martian citizen.

At the magnificent Spacelanes Hotel, Tom was greeted with the greatest respect. Already his feat of stopping the runaway truck had been announced over the stereo newscasts, and when he asked the location of the nearest supply store to buy a uniform, one was immediately brought to his room by the manager.

"But how did you know?" asked Tom, astounded.

The manager showed Tom a photograph of himself in his ragged clothes, taken while he was talking to Connel. In the background was the remains of the jet car.

"Major Connel called and said you would be staying here," said the manager. "From the looks of you in this picture, we knew you would need a new uniform."

"And you've got my size!" exclaimed Tom, holding up the gleaming new blouse.

"We called the Academy." The manager smiled. "We wanted to be sure. Incidentally, there is a message for you." The manager handed Tom a typed space-o-gram and left. The cadet ripped it open and smiled as he read:

TRYING TO HOG ALL THE STEREO SPACE YOU CAN WHILE YOU LEAVE THE REAL COMPETITION AT HOME, YOU RAT! CONGRATULATIONS!

ASTRO AND ROGER

Laughing to himself, Tom left the message on the desk, stripped off his torn, dirty clothes, and stepped into a hot, refreshing shower. Half an hour later he was digging into a thick steak with French fried potatoes.

After a third helping of dessert, the cadet stretched out on the bed and closed his eyes. But sleep would not come. The incidents at the spaceport that afternoon kept flashing through his mind. He tossed restlessly, something he couldn't quite remember was tugging at the back of his mind.

He retraced the events of the day, beginning with the landing of the *Polaris* and ending with the crash of the jet truck.

Suddenly he sat up straight. Then quickly he jumped out of bed, hurriedly threw on the new uniform, and rammed his feet into the soft space boots.

Ten minutes later, having used the service elevator to avoid the lobby, he stood on the corner of Lowell Lane and Builker Avenue. He hailed a passing jet cab, and climbing in, asked the driver, "Do you know a restaurant or a bar called Sloppy Sam's?"

"Sure," said the driver. "That where you want to go?"

"As fast as this wagon will get me there," replied Tom.

"Why?" asked the driver strangely. "You look like a nice kid. That joint's for—for—well, it ain't for a Space Cadet," he concluded lamely.

"The first thing they teach us at the Academy, buddy," said Tom impatiently, "is how to take care of ourselves, and the second thing is to mind our own business."

"Right," said the driver, tight-lipped. He slammed the car into motion and the force hurled Tom back in his seat.

Tom grinned. He hadn't meant to sound so tough. He leaned over and apologized. "I'm looking for an old friend. Someone told me he drives a truck and he might be there."

"Forget it, kid," said the driver. "I wouldn't want you in my cab if you couldn't take care of yourself. We pay taxes to teach guys like you how to protect us. A lot of good it would do if you were scared of a taxi driver."

Tom laughed and settled back in his seat to watch the city flash past.

A half hour later the curly-haired cadet became aware of the change from the magnificent crystal buildings to the dirty and streaked buildings of the poorer section of the city. And with the change, Tom noticed a difference in the people who walked the streets. Here were men who wore their coat collars high and their caps pulled low, and who would duck into the shadows at the

approach of the cab and then watch it with dark, silent eyes.

"Here ya are, Cadet," the driver announced, stopping in front of a small, dirty building. "Sloppy Sam's."

Tom looked out. The door was open and he could see inside. Sawdust covered the floor, and the tables and chairs were old and rickety. The men inside were the same as those he had seen on the street, tough-looking, hard, steely-eyed. Tom looked at the faded sign over the door. "That says *Bad* Sam's," he protested.

The men inside were tough-looking and steely-eyed

"Used to be called Bad Sam's," replied the driver. "As a matter of fact, I think it's still officially Bad Sam's. You see, Sam used to be a real tough fella. Then one day a fella came along that was tougher than he was and beat the exhaust out of him. Sam went to pot after that. He got fat and lazy, and his place here got dirtier and dirtier. Finally everybody started calling him Sloppy Sam and it stuck."

"Quite a story." Tom laughed. "What happened to the fellow that took Sam over the hurdles?"

"He's got a joint on the other side of town called Bad Richard's. But they're friends now. Get along fine."

Tom paid the driver and stood on the sidewalk, watching the silver cab shoot away into the darkness. Then he took a deep breath and slowly moved toward the open door of Sloppy Sam's.

Inside, Tom saw that most of the customers were lined up at the bar, drinking rocket juice, a dark foul-tasting liquid that Tom had sipped once and vowed he would never try again. But as he looked around, he didn't think it was the type of place you could order anything milder, so he walked up to the bar and ordered loudly, "A bucket of juice."

Some of the men at the bar turned away from the stereo screen to look at the newcomer. They eyed the crisp, clean uniform narrowly, and then turned silently back to the play on the screen.

The husky bartender placed the small glass of dark liquid in front of Tom. "Twenty credits," he announced in a hoarse voice.

"Twenty!" exclaimed Tom. "Don't give me that rocket wash! It's five credits a shot."

"To a Space Cadet that wants to keep his reputation, Corbett," replied the burly man, "it's twenty."

Tom realized that the man had seen his picture on the stereo news that afternoon and that it would be impossible to get out of paying this blatant form of blackmail. He handed over the money and picked up the glass. He sipped it to keep up appearances but even the few drops he allowed to trickle down his throat almost made him gag. He gasped for breath. Whatever information he might be able to get here, it wasn't worth another swallow of that stuff.

He stood at the bar for nearly half an hour, watching the stereo and waiting. When the show was over, the men turned back to the serious business of drinking. Two of them drifted over close to Tom and looked him up and down. After a whispered conversation, they turned to him and pointed to his drink, the same one he had bought and had not touched since.

"Drink up, mate," said the nearest man, a tall, heavy-shouldered man with a dark beard, "then join us in another one."

"No, thanks," said Tom. "One's my limit."

The two men laughed. "Well, I'll say this for you, lad, you're honest about it," said the tall one. "Most squirts coming in here try to put on they can take the stuff and then they wind up in the gutter."

"That's right, Cag!" said the other man, laughing.

"What are you doing in here, Cadet?" asked the man called Cag.

"Looking for a guy."

"What's his name? Maybe we know him."

"Yeah, we might," chimed in the other. "We know just about everybody that comes in here."

"Maybe he don't want to tell us, Monty," said Cag.

"I don't know his name," said Tom. "I just met him today and he mentioned this place. I wanted to talk to him about something."

"Where did you see him?"

Tom paused. It was only a chance remark that the driver of the jet truck had made and it was a slim chance that these two men might know him. He decided to risk it. "He's a jet trucker. I saw him out at the spaceport today."

The two men looked at each other. "Little guy, with a sort of funny twitch in his eye?" asked Cag.

"Yes," replied Tom. "That's him. Know him?"

"He hangs out in a joint across the street," said Monty. "Come on outside. I'll show you where it is. And his name's Pistol, in case you want to know."

"Pistol," said Tom. "That's an odd name."

"Not when you consider he carries a pistol all the time," snorted Cag.

Tom and the two men walked to the door and out into the street.

"What do you want to see him about, anyway?" asked Monty, as they walked to the corner.

"Just wanted to talk to him about the jet-trucking business."

"What about it? We're truckers, me and Cag, we could probably tell you a lot more than Pistol."

"Maybe," said Tom. "But I want to talk to Pistol."

They stopped at the corner and Monty stepped off the curb into the street. "See that light down there," he said, pointing down the block, "the one just above the door?"

Tom turned to look. "Where—?"

He suddenly felt a sharp jolting pain in the back of his head and then everything went black.

"Nice work, Cag," commented Monty.

"What'll we do with him?" asked Cag.

"Throw him in the back of the truck and get outta here," said Monty, pulling Tom's limp form into the shadows of an alley. "I'll get in touch with the boss and tell him what's happened. And you better send out word to get Pistol. He must know something."

"Right," said Cag. "Gee, Corbett's getting his nice clean uniform messed up."

Dirty gutter water flowed over Tom in the dark Martian alley as the boy lay deathly still.

CHAPTER 9

"What!" exclaimed Major Connel. "Give me that again."

The messenger from the Solar Guard headquarters on Mars repeated the message. "Cadet Corbett has not been in his hotel since last night, sir," he said. "He was seen leaving the service entrance at about 2100 hours. There is no report as to his whereabouts, sir."

Standing at the foot of the ladder leading to the main air lock of the *Polaris*, Major Connel turned to Carter Devers angrily.

"This is the end!" he shouted. "I've had as much of this foolishness as I'm going to take. When that young space brat comes back, I'm going to throw the book at him."

"Now, now, Major," said Devers. "I wouldn't be too hard on the lad. How do you know that he isn't in some kind of trouble?"

"That's just it," growled Connel. "One of those three is always in trouble."

"He saved your life," reminded Devers.

"I'm well aware of that," replied Connel stiffly. "But it's a personal debt. It has nothing to do with his behavior as a cadet. I ordered him to go to that hotel and rest, not go skylarking all over Marsport. This is typical of the whole unit's attitude."

"But you said that they were the best crew you ever had," insisted Devers.

"I know, but what's worse is that *they* know it! Blast it, Carter, it isn't easy to say the things I've said about Corbett! He's a fine lad. But look at it this way. I have to return to Atom City immediately. Corbett may be in trouble, right?" Devers nodded. "Well, how do you think I feel, blasting off and leaving him?"

Devers nodded his understanding as Connel continued furiously, "And furthermore, I have more important things to think about than wet-nursing a cadet."

At that moment Connel noticed a jet car racing across the spaceport toward the *Polaris*. As it drew near, he saw the insigne of the Solar Guard on the hood. His eyes widened hopefully for a second. "Humph," he grunted, "this may be him now!"

"If it is," cautioned Devers, "go easy on the boy."

"We'll see, we'll see."

The car screamed to a stop in front of them, the plastic blister was thrown back, and another Solar Guard messenger climbed out, saluting Connel smartly.

"Message from Solar Guard headquarters, Major Connel," he said.

Connel took the paper and ripped it open. "Excuse me, Carter," he muttered and stepped to one side to read the note hurriedly.

HEMMINGWELL'S CHIEF FOREMAN ARRESTED AS SABOTEUR. ADVISE YOU RETURN IMMEDIATELY. WALTERS

Dashing up the metal ladder, Connel roared the order to the waiting ground crew. "Stand by to blast off."

Carter Devers scrambled up into the giant ship after the Solar Guard officer, and in less than a minute later, all ports were sealed and the *Polaris* was ready for space. In the pilot's chair, Connel called traffic control for blast-off, and at the same time prepared to raise ship.

By the time Devers had strapped himself into the copilot's chair next to Connel, the ship was quivering with leashed power. Suddenly Connel roared the familiar call for space.

"Blast off, minus five, four, three, two, one, *zero*!"

The great ship literally exploded off the ground, and within seconds, was rocketing through the thin atmosphere above Mars on course for Earth, far across the deep black velvet void of space, but leaving Tom Corbett, her true commander, behind.

* * * * *

Captain Steve Strong and Commander Walters watched grimly as the *Polaris* landed on the Academy spaceport. They had been in contact with Connel during his trip back to Earth and had already told the bluff major of still another incident that had taken place at the Academy while he was gone.

Roger and Astro had stolen a rocket scout and disappeared.

"I don't get it, sir," sighed Strong. "Manning and Astro blowing wide open, Corbett disappearing—" He shook his head. "It doesn't make sense."

"Perhaps not," said Walters. "But those three are really in trouble now. Connel won't stand for this kind of behavior."

"Do you think that he'll go so far as to ask for a court-martial?"

Walters hesitated. "I hate to say this, Steve," he said finally, "but if Major Connel doesn't, I will be forced to. No other unit has had more of an opportunity to prove itself than the *Polaris* unit. And every time, something like this happens."

"But suppose they have good explanations," insisted Strong.

"It would have to be better than anything they've had before," replied Walters. "Frankly, I cannot see how that is possible."

Walters climbed into his jet car and Strong followed, biting his lip.

The car shot across the field to the now grounded *Polaris*, pulling alongside it just as Major Connel and Carter Devers climbed out of the open hatch. Without even the courtesy of a greeting, Connel roared, "What's this about those two cadets stealing a ship?"

"Let's talk about that later, Lou," said Walters. "Climb in. We've got something more important to discuss. The saboteur."

Devers stepped forward. "This is no place for me, I know," he said. "I'll leave you here. And thanks for the lift, Major."

Connel grunted his acknowledgment and climbed into the car as Strong turned to Devers.

"There was a message for you, Mr. Devers," said the Solar Guard captain. "You're to get in touch with your Atom City office immediately."

"Thanks, Steve," said Devers, and with a wave of his hand to the others walked away.

As the jet car raced back to the Tower of Galileo, Walters brought Connel up to date on the incident at the hangar leading to the arrest of Pat Troy. When they reached Walters' office, high in the tower, Troy was ushered in by two guards.

"Sit down!" barked Connel, taking command of the situation.

Troy walked to the center of the room and sat down in the indicated chair, facing Walters, Connel, and Strong.

"We'd like to get to the bottom of this as soon as possible, Troy," began Connel. "So I suggest that you tell us the truth and save us the trouble of pulling it out of you.

"I will answer all of your questions to the best of my ability, sir," said Troy calmly. "And I will tell the truth at all times."

"Very well," snorted Connel. "Now, who are you working for?"

"Professor Hemmingwell," replied Troy.

"Stow that," snarled Connel. "Who paid you to sabotage the ship?"

"I have not committed any sabotage for anyone, sir."

"Then you deny that you wrecked that firing unit?"

"Yes."

Walters suddenly leaned forward. "But you do not deny that you knew about the special unit that Professor Hemmingwell had created," he said. "A unit that only he and I knew about?"

"I knew about the unit—yes, sir," replied Troy.

"How could you?" demanded Walters.

"I overheard you both discussing it one day."

"Where?"

"In the hangar," said Troy. "You and Professor Hemmingwell were talking

on the main deck while I was inside—what will be the radar deck—working. I heard you talking about the unit, and after you left, I happened to find a blueprint on the table. It coincided with what you had been talking about. I looked at it and then thought nothing of it. A few minutes later the professor came running in and took the blueprint away."

"Did he ask you if you had read the print?" asked Connel.

"No, sir," replied Troy. "If he had, I would have told him that I had."

"Now," said Connel, "did you have anything to do with the so-called accident to the oscillating timing device?"

"No, sir."

"Do you know who did?"

"No, sir."

"We can put you under drugs, you know, and get the truth out of you," warned Connel.

"You'll get the same answer, sir," Troy calmly replied.

Walters, Strong, and Connel moved to one side of the room and talked in low tones while Troy remained seated.

"Well," said Walters, "do we give him drugs or not?"

"I may be sticking my neck out, Commander," said Steve, "but I think that he's telling the truth."

"Same here," said Connel. "I would suggest that we let him loose, and even let him go back to work, but keep an eye on him."

"And you wouldn't give him drugs now?"

"No. I'd give the benefit of the doubt to a man any time," said the hardened space major.

"All right," said Walters. He turned back and told Troy he was free, but that he was not to leave the restricted area. And he was only permitted to work on less critical projects. "Do you have anything to say?" Walters asked.

Troy smiled at them and shook his head. "No, sir. That's fine with me," he said. "And I'll keep my eye open for the real saboteur—"

"That won't be necessary!" snapped Connel. "We're capable of handling our own detective work."

Troy grinned again. "Very well, sir," he said.

Connel dismissed the guards and the foreman walked out of the office a free man.

Connel and Walters turned to discussing the installation of the receivers on Mars, with Connel lauding young Lieutenant Slick highly. "That boy deserves a promotion in rank," he stated.

Walters nodded. "I'll put his name on the list at the end of the year," he said. "If he has done everything you say he has, he deserves it."

Steve Strong stood to one side, waiting impatiently for the two older men to finish their conversation before asking about Tom Corbett. At the same time, he was a little fearful of bringing up the subject of the *Polaris* unit, in the face of what Astro and Roger had just done. It was not an easy thing to do, but at

the first opportunity he broke into the conversation with a direct question to Connel.

"Major, is there any doubt in your mind about Corbett's disappearance being an accident or do you—"

Connel cut him off. "Do I think he's AWOL?"

Strong nodded silently.

"Steve," said Connel patiently, "I know how you feel about those three boys, but tell me, how long can this go on? They constantly take off on their own, without authorization—"

"But they usually have a good reason," Strong interrupted quickly.

"Then why don't they give us the reason first?" Connel shot back.

"What Lou is trying to say," interjected Walters quietly, "is that Corbett, Manning, and Astro have time and time again committed us to take action, to get them out of situations that they initiated. It's time they were stopped! They are only one unit in this Academy, not the whole works."

"Then I guess you mean"—Strong hesitated, a lump in his throat—"it will be the end of the unit when they get back?"

"If they get back," snapped Connel, "I intend to see that all three receive solid disciplinary action."

"Very well, Major," said Strong. He rose and addressed the commander. "I request permission for emergency leave, sir, commencing now."

"Permission denied!" said Walters. "This is exactly what I've been talking about, Steve. You want to leave to go to Mars and look for Tom when we need you here on the project."

Strong's face suddenly turned white. And then, for the first time in his career, he ignored military courtesy and turned to leave without the courtesy of a salute or permission to do so. Connel almost called him back, but Commander Walters put a restraining hand on the major's arm.

"Think of it this way, Lou," he said. "If you wanted something you believed to be right, and it was denied you, how would you feel?"

"I'd very likely do the same thing," snapped the major. "And I'd get my rockets busted for it by my commanding officer!"

Walters grinned and pulled the major back to the desk where they continued their discussion of the receivers on Mars.

They had no sooner begun their discussion when the sliding door opened and Professor Hemmingwell burst into the room, his smock flying behind him, his hair ruffled and eyes wide with fright.

"The ship! The ship!" he cried out. "Someone has blown up the whole control panel of the ship!"

CHAPTER 10

"It will take weeks to repair it!"

Professor Hemmingwell stood on the main deck of the giant spaceship staring sadly at the mess of wires and tubes, controls and gauges, switches and filaments, all shattered and useless.

"When did it happen?" demanded Connel.

"Less than half an hour ago," replied Dave Barret. "Professor Hemmingwell and I were down at the far end of the hangar. The men had just left for the day and we were planning the work for tomorrow."

"Then what happened?" demanded Connel. "Wait, don't answer yet!" He stopped himself and turned to a Space Marine standing nearby. "You! Can you work an audio recorder?"

"Yes, sir," replied the Marine.

"Then get a machine up here on the double and take down everything that's said."

"Yes, sir," said the Marine and left the ship. Connel silently began inspecting the wreckage. It was ten times as serious as the first sabotage attempt.

Barret, Commander Walters, Professor Hemmingwell, and Captain Strong watched the major, their teeth clenched, eyes clouded with anger. Where the destruction of the first unit could have been called an accident, here was tangible evidence of a deliberate attempt to stop the whole project. The Space Marine, accompanied by Firehouse Tim Rush, returned five minutes later with the audio recorder and set it up for operation.

Connel took the small needlelike microphone in his hand and spoke into it as the reel of sound tape unwound slowly.

"This is a preliminary inquiry into the sabotage of the control deck of spaceship XX, Operation Space Projectile," he said. "This is Major Lou Connel, interrogator!" He paused and nodded to Barret who stepped forward. "My first witness will be Dave Barret." Holding the microphone close to the young engineer's mouth, Connel said, "Tell us everything you know of this incident."

Barret spoke slowly and carefully, describing how he and Professor Hemmingwell had been at the other end of the hangar when the explosion had occurred. Professor Hemmingwell had immediately run out of the hangar to inform Commander Walters, leaving Barret alone to check the damage. "Then you and Commander Walters and the Space Marines showed up, sir," he

concluded. "That's all I know."

"All right," said Connel and turned to the professor. "Your statement, Professor Hemmingwell."

"It happened just about the way Dave said," Hemmingwell began. "Except for one thing. I cannot see why there weren't any guards at their posts this afternoon. We were without any men at the entrances for nearly an hour. Anyone could have slipped into the hangar and planted the bomb."

"Why weren't the entrances guarded?" snapped Connel, looking directly at Firehouse Tim Rush.

"Cadets Manning and Astro left their posts without leave, sir," reported the stocky little spaceman.

Captain Strong took an involuntary step forward, his face drained of all color. Connel looked at him, steely-eyed. "Did you hear that, Strong?" he growled.

Strong nodded. "I—I did," he stammered.

"So those two idiots not only stole a rocket scout, but they left their posts."

Strong could only shake his head in utter disbelief. Commander Walters looked at him pityingly.

"I knew they had taken the scout," said Walters, his voice hard and tight. "But I didn't think they were foolish enough to leave their posts."

"Well, they did, sir," declared Rush. "They left about four hours before they were to be relieved. I was making the rounds when I discovered that they were gone. I put two other men on guard right away, but the doors were unguarded for at least an hour. Anyone could have walked in without the slightest trouble."

Connel turned back to Walters. "This is the end! Those two cadets are going up before a general court-martial."

"Commander," protested Strong, "you can't—!"

"Shut up, Steve!" barked Connel. "There's a limit to how long you can defend your unit. Face it, man, those three boys have gone off their rockers. They're too cocky. This is the last straw." He turned away from the young Solar Guard officer and faced the others. "Let's get on with the interrogation. Firehouse! What have you got to say about this?"

The tough little enlisted guard stepped up and reported clearly and rapidly and without pause. When he was finished, Connel turned to the guards that had replaced Roger and Astro and each one repeated the story told by Firehouse Tim.

Over and over, Connel heard the same story. No one seemed to have been around the ship when the explosion took place. And it seemed that the only time when a saboteur could have gotten into the hangar and planted the bomb was during the hour the doors were unguarded.

Finally, the interrogation was over and Connel declared, "One thing to remember when you are dealing with sabotage is this: if the saboteur fails, he might return. If our enemy does not know the extent of the damage, then he

might return and make another attempt. So, not a word about this to anyone. And that includes your mothers."

"Major, there is one thing I'd like to add," said Barret, stepping forward.

"What's that?" asked Connel.

"It's about the cadets," said Barret. "I talked to them just before they blasted off in the scout. They had a lot to say about your taking Corbett with you on the trip to Mars. They seemed disgruntled and dissatisfied."

Steve Strong whirled on the young engineer. "What did they say?" he demanded.

"Simply that they didn't feel that they were getting a fair deal with Tom being taken off guard duty, since he was actually responsible for them having it in the first place.

"They said that!" exclaimed Strong. "But how could that—" He suddenly closed his mouth and turned away, frowning.

"But how could what, Steve?" asked Walters.

"Nothing, sir," said Strong. "You have already reprimanded me too often as it is for speaking up in their behalf."

Walters lifted his eyebrows. "It appears to me that you're getting a little touchy!" he barked. "Watch yourself, Steve. Don't let your feelings for those boys get out of hand."

"Blast it!" exclaimed Professor Hemmingwell. "While you continue talking about those stupid cadets, you're just wasting my time. There's plenty of work to do and precious little time to do it in." He turned to Barret. "Come on, Dave, let's get this mess cleared away."

"Yes, sir," said Dave Barret.

As Hemmingwell and Barret turned their attention to the wrecked control panel, Connel, Walters, and Strong climbed out of the ship and left the hangar. On the slidewalk, headed back to the Academy, Commander Walters looked at Connel inquiringly.

"What now, Lou?" he asked.

"I have an idea, Commander," said Connel. "I'm going to spend the rest of the night listening to this audiotape over again. Then I'm going to do a little digging around."

"All right," said Walters. "And I suppose you'll want to talk to Manning and Astro when they get back."

Connel looked at Captain Strong grimly. "I want to talk to them so badly, I would crawl on my hands and knees to get to them right now."

Strong flushed angrily but said nothing, and as soon as the three officers arrived at the Academy grounds, he excused himself. He walked slowly and thoughtfully along, looking at the dormitories with unseeing eyes and hearing with deaf ears the noise of the cadets getting ready for bed. He could not believe that Roger or Astro had abandoned their posts, or that Tom would run off to disappear on Mars, just for the sake of disappearing. In all his years at the Academy, Strong had never met three boys who so exemplified the true

spirit of Space Cadets. Something was wrong somewhere. But what?

Strong paused outside the huge recreation hall, watching the cadets. Tony Richards and the *Capella* unit walked by, and returning their salutes, Strong could only see Tom, Roger, and Astro.

A figure dressed in the black-and-gold uniform of an officer in the Solar Guard walked toward him. Strong's eyes lighted up with recognition.

"Joan!" he exclaimed. "What are you doing here?"

"Looking for you," she said. She had some papers in her hand and held them out to him.

"What's this?" he asked, glancing at them in the light reflected from the hall, and then back to the serious face of the brilliant young physicist, Dr. Joan Dale, who, in spite of being a woman, had been placed in charge of the Academy laboratories, the largest and most complete in the entire Solar Alliance.

"Steve," she began, "I was in charge of the psychograph tests taken of all the workers at the projectile operation after the first mishap—"

"How did you know about the second?" Strong interrupted quickly, remembering Connel's admonition about keeping the incident quiet.

"I was ordered to go over the graphs again, to look for any possible clue in a worker's mental make-up that would lead him to a criminal act." She paused and looked up at him squarely. "Do you suspect me too?"

"I'm sorry, Joan," said the young captain. "But this whole business is getting me down. Tom, disappearing on Mars, Roger and Astro walking off guard duty and stealing a scout, and now this latest sabotage attempt." He sighed and shook his head. "I'm tired I guess."

She smiled. "I understand, Steve, and regardless of what Major Connel and Commander Walters have said, I'll bet my last credit there's a good reason for what the boys have done."

Strong looked down at the pretty physicist and smiled. "Thanks, Joan," he said. "Now, what about these papers?"

"It's about the report on Pat Troy," she replied. "When we asked him if he was working with anyone other than the professor, he lied."

She produced a sheet of paper from among those she held and handed it to Strong. The young captain took it and scanned it quickly. The paper was ordinary graph paper with a series of small, wavy lines on it in red ink. Near the bottom of the paper, there was a jagged peak in the wavy line. "What does this mean?" he asked, pointing to the peak.

"That was his reaction when he was asked if he worked for anyone else."

"Does that mean it's a lie?"

"Yes. All the waves that you see," she continued, pointing to the line, "represent answers to questions about his personal life. Does he shave in the morning? Does he brush his teeth at night, and so forth. They're comparison questions to show his reaction when he tells the truth. That peak indicates a lie."

"Then," said Strong thoughtfully, "he might be the saboteur."

"Or know who it is," said Joan.

"I've got to get this information to Connel right away!" said Strong. "Can I have this paper?"

"Yes. I made copies. I was just going to take one to the commander when I saw you."

"I'll try to locate Major Connel and you go on and tell the commander what you've found. And Joan—" Strong hesitated.

"Yes?"

"Put in a good word for the cadets, will you?" Strong pleaded. "Both Connel and Commander Walters are all set to blast them right out of the service."

"I'll do what I can—" Suddenly Dr. Dale stopped, her eyes widening with fright. She pointed down the walk behind Strong.

Steve turned around and gasped. Connel was striding toward them grimly, followed by four guards carrying a stretcher covered by a blanket. Strong quickly recognized the outline of a human form beneath the blanket.

"Major," exclaimed Steve, "what—who—?"

"It's getting thicker by the hour, Steve!" said Connel in a low voice. "This is the first time in the history of the Academy that there has been what looks like"—he paused and turned to look at the draped body being carried past them—"an attempt at murder," he finished.

"Murder!" said Strong. "But—"

"Who is it?" demanded Joan.

"A little man who can tell us a great deal if and when he regains consciousness! Pat Troy!"

CHAPTER 11

"Vroom-m-m!"

As the shattering blast of noise pounded against his eardrums, Tom Corbett opened his eyes, blinked, and stared around him. By the dim light from a small window in the wall over his head, he saw that he was in some sort of metal enclosure. Suddenly the floor trembled and again the shocking, shattering noises rang through his aching head. He tried to sit up but found that his hands were tied behind his back. The ropes were so tight, his hands were almost completely numb. Slowly he clenched his fingers, then opened them again, repeating the process over and over again while needlelike pains shot through his hands. Finally there was feeling in his fingers again and he struggled to a sitting position.

Again the metal enclosure vibrated and there was another thunderous blast. This time Tom recognized the sound.

"A jet!" exclaimed the cadet aloud. "I'm in the van of a jet truck."

When Tom tried to stand up, he found that his feet were bound. Again he went through the slow, painful process of restoring circulation in his legs and feet, gritting his teeth against the needles of pain. Finally he felt strong enough to push his back against the wall and inch his way upright.

The noise around him continued. Again and again, he could hear the shattering explosions of the exhausts and the screaming whine of the jets. Looking around carefully for the first time, he saw that the van was empty except for a pile of heavy quilted rugs in one corner which he knew were used to protect and cushion cargo.

Hopping to the corner, he flopped down on the blankets and, one by one, he began dragging them out. There was nothing else in the van that would aid him in cutting the thick ropes around his wrists and he hoped to find something under the heap.

Suddenly he felt something hard and boxlike under the last blanket and he tore it off quickly.

He nearly screamed for joy when he recognized a heavy metal toolbox. Sitting on the floor of the van, he maneuvered the top open, then spun around and hopefully looked inside. There was nothing in the box but a dirty cloth, and Tom slumped back in bitter disappointment.

Suddenly the cadet became aware of the intense heat inside the van. He was sweating, and he found it difficult to breath. He inched over to the side of the huge truck and touched the metal paneling. It was blisteringly hot.

"The New Sahara," he thought, a vision of the desolate sun-baked wasteland of the Martian desert flashing through his mind.

He looked around again desperately. The only thing in the van that might cut through the rope was the edge of the toolbox. He inched his way back to the box and began rubbing the rope across the edge of the box, but it was too smooth.

Tom knew that he would have to roughen the edge of the box, so that it would cut the thick fibers of the rope, and in sudden inspiration, he inspected the floor of the van. The heavy-gauge metal was scarred and roughened from the many heavy loads dragged across it. He turned the box over, and with great difficulty, rubbed it back and forth across the floor. Every few minutes he tested the edge of the box with his finger. It was losing its slick surface, but there was a long way to go.

It got hotter inside the van and Tom's uniform was soaked with sweat. He found it difficult to breathe and the continuous roar of the jets tortured his ears.

He did not know how long he had worked, but eventually, he felt that the edge of the box was sufficiently rough to try to cut the ropes. He righted the box, placed the ropes on the edge again and, with a silent prayer, began scraping them across the metal.

After a few minutes there was a tug at the bonds. The cadet pushed harder. There was another tug and the rope seemed to give a little. Working frantically, he sawed back and forth. The sweat poured from his forehead, his arms and back ached unbearably, and soon he felt something warm and wet begin to trickle down the palms of his hands. He knew it was blood, but he kept on grimly, and suddenly he was rewarded. With a snap, the ropes parted. His hands were free!

Tom hastily untied his feet, and giving the toolbox an affectionate pat, rose to his feet to begin the next step in his plan to escape.

The young cadet examined the entire surface of the inside paneling of the van with his finger tips. He could find no opening other than the back door, which he knew was locked by an electronic beam. Without the proper light-key adjustment, the door could not be opened. And the vent high in the wall was much too small to help him.

He sat down, disheartened. He was still no better off than before. And there was no way of telling where he was, whether it was day or night, and how long he had been riding in the jet truck.

He rested on the floor of the van, the bumpy ride cushioned by the soft blankets, and tried to recall the events that had led him into this trap. He remembered the two men, Cag and Monty, and grimly vowed to repay them if he ever met them again.

Suddenly remembering something more immediate, Tom sat bolt upright. He got up and went to the front of the huge van. There he knelt down in one corner and felt the floor with his hands. He found exactly what he had been

hoping for. A large grate, and it was cool! He jumped up, grinning, grabbed the heavy toolbox and carried it back to the corner where he let it drop on the grate. It sagged slightly, near the corner. He picked up the box and dropped it again. The grate sagged a little more. Tom got down on his knees and felt along the edge of the floor. The grate was giving way.

He really began to hammer in earnest then. And each time the heavy box thudded on the grate, he thanked his lucky stars that he had lived near a garage when he was a boy back in New Chicago. Time and time again, he had slipped inside the huge vans after the produce had been taken out, to find a piece of fruit. He had gotten into the sealed vans, through the refrigerating compartment, a huge unit beneath the van and connected to the cab. Opening the outside hatch to the unit, he had squeezed inside and then unscrewed the grate from the bottom.

With a final hard smash, the grate gave way, clattering into the recesses of the refrigerating unit. Now Tom was grateful for the roar of the jets. It covered the sound of his escape.

Quickly reaching down into the unit, Tom began tearing the mechanism apart; ripping out coils of copper tubing and rubber connections. Disconnecting a pipe, he used it to pry apart the rest of the unit, and finally, after removing the broken parts, there was room enough for his body.

Stuffing the heavy pipe in his tunic, Tom dropped into the unit and opened the outside hatch. A blast of cool air struck him. The sun was setting and the cadet knew that soon the near-zero temperatures of night would settle over the desert. Tom poked his head out and the air stream hit him like a solid wall. He looked back past the spinning wheels and saw a long stretch of deserted road bordering a canal. His view forward was blocked by the overhanging cab of the truck. The small step up to the cab was a foot away. Tom eased back into the compartment again and sat back against the wall to consider his next move. He would have a better chance of not being seen if he waited for darkness. On the other hand, they might reach their destination before that and he would be caught. Tom made up his mind quickly.

Moving back to the hatch, he eased himself through the opening. There was a ticklish moment when he had to let go of the side of the compartment and swing over on the step. He took a deep breath and lurched forward.

Behind him, the huge thick wheels spun over the road. A slip now would mean instant, crushing death. His fingers reached for and grasped the door handle. Seconds later, he stood balanced on the step, swaying in the wind.

He dared a glance into the window of the cab, wondering why he had not been noticed before. He saw Cag and Monty inside, Cag driving and Monty asleep. The driver was on the opposite side from Tom, and Monty was slumped against the door.

Tom realized that if he opened the door, Monty would fall out and probably be killed, but he had no choice. He reached up for the handle and tested it gently before swinging down on it to make sure it would open. It gave a little. Then bracing himself, he pulled hard.

The door swung open and Monty fell out, hitting the pavement and rolling off into the sand to lie still. Tom paid no attention to him. With a mighty effort, he swung into the cab and confronted a startled, wild-eyed Cag.

"You!" cried Cag.

"Stop this crate, or so help me, I'll break your head!" Tom shouted, brandishing the short length of pipe.

In reply, Cag suddenly swerved the big truck to one side of the road, hoping to throw Tom out of the open door. Tom managed to grab hold just in time. He swung back into the cab and struck out with the pipe.

Cag ducked and swung the heavy truck to the opposite side of the road, trying to throw Tom off balance, but the cadet was not to be denied. He swung the heavy pipe again and again, landing hard, telling blows on the arms and shoulders of the burly truck driver. Finally a solid blow caught Cag on the side of the head and he slumped over unconscious. Tom leaned over him, grabbed the wheel, and maneuvered the big truck back onto a straightaway course. A minute later he brought the truck to a stop.

Tom jumped out and pulled Cag after him, taking a bottle of water from the

small compartment behind the driver's seat. He splashed some on the man's face, and while Cag moaned and came to, Tom drank his fill. He hadn't realized that he was so thirsty.

"Cag," said Tom coldly, when he knew the man could understand him, "I'll beat your ears off if you don't tell me who put you up to this!"

Cag was silent. Tom stepped in and slapped the man across the face.

"Come on! Talk!" he snarled.

Dirty, his clothes ripped, his hands bloody, Cadet Tom Corbett did not look like the carefree young cadet that Cag had met a few hours ago. He was frightened and began to whine.

"Talk or I'll slap you silly!" Tom growled.

Cag saw the wild rage in Tom's eyes and began to stutter.

"The trucking outfit! Just find out who owns this trucking outfit and who would gain if the projectiles failed."

Tom was back in the cab in a flash. He started the mighty jets and began to engage the clutch.

Cag leaped up. "You can't leave me here in the desert! I'll die."

Tom looked at the man, threw out the rest of the food and water from the compartment, and gunned the huge truck down the highway.

Eight hours later Tom rolled into Marsport, stopping the big truck at the first Solar Guard substation he could find.

He raced inside without cutting the jets of the truck and reported to a sergeant seated behind the desk, reading.

"I'm Cadet Tom Corbett!" he shouted. "I've got to get in touch with Commander Walters at the Academy right away."

"Stand where you are, Corbett!" said the sergeant, jumping up and leveling a paralo-ray gun at him. "You're under arrest!"

Tom stared, and then, spinning on his heels, dashed out of the station, the guard's ray blasts spitting at his heels. Jumping into the truck, he gunned the jets and roared off into the dark Martian night.

CHAPTER 12

"Aw, shut your big Venusian mouth!"

As Roger's voice roared over the intercom loud-speaker of the speedy rocket scout, down on the power deck Astro's face turned red.

"Manning," he growled into the intercom microphone, "if I didn't need you to get me back to Mother Earth, I'd come up there and take you apart!"

For four days the two cadets had been aboard the rocket scout, circling in an orbit between Mars and Earth, conducting equipment tests for Dave Barret. They had become bored with the routine work and spent most of their time needling each other, but as Roger said, at least they were in space.

"O.K., let's knock off the space gas!" called Roger over the intercom. "It's time to run another test. Want to come up topside and take a hand?"

"Be right there, Roger!" said Astro. He set the power-deck controls on automatic, and then, with a quick look around to make sure everything was shipshape, he climbed the ladder to the control deck.

Roger was standing at the chart table, audiophones on his ears, listening for the automatic astral chronometer time-check broadcast on a suprahigh-frequency audio channel from the giant electronic clock in the Tower of Galileo. All spaceship chronometers were checked against this huge clock regularly, in order to maintain constant uniform time so necessary for the delicate art of astrogation between celestial bodies.

Astro started to speak to the blond-haired cadet, but Roger waved him off, listening for the signal. Suddenly he looked up at their own chronometer above the control board and took off the audiophones, smiling his satisfaction.

"Right on the split second, Astro," he said.

"O.K.," replied the big Venusian. "Then let's run that test and get it over with."

"Right," said Roger, turning back to the control panel. "Do you want to go outside this time?"

"I might as well," replied Astro. "Give me a change of scenery."

The big Venusian turned to a locker, pulled out a bulky space suit, and climbed into it quickly. Adjusting the space helmet, he nodded at Roger and stepped into the air-lock chamber, pulling the hatch closed behind him. While waiting for the oxygen in the small chamber to be pumped back into the ship and the pressure to be equalized with the vacuum of space outside, he checked his helmet intercom to insure a clear line of communication with Roger.

The red hand closed on the *zero* of the gauge over the door and Astro

moved to the outer hatch. He unlocked it, swung the door open, and slowly climbed out into the fantastic beauty of endless space. No sooner was he outside than the synthetic gravity generators lost their pull on his body and he started into space. Tightly grasping two metal handles in the hull, the big cadet performed a quick somersault and planted his feet firmly on the hull. His magnetic-soled space boots held him fast and he called Roger over his helmet intercom.

"I'm outside, Roger," he reported. "On my way down to the exhaust."

"Right," came Roger's voice over the intercom. "Let me know when you're ready."

Without replying, Astro made his way slowly and carefully down the length of the rocket scout toward the main drive rocket assembly. Stopping at the trailing edge of the hull, where it enclosed the four rockets, the big Venusian squatted on his heels, making certain the soles of his space boots stayed in contact with the metal of the hull. He peered over the edge and braced himself in a position where he could observe the individual rocket exhausts.

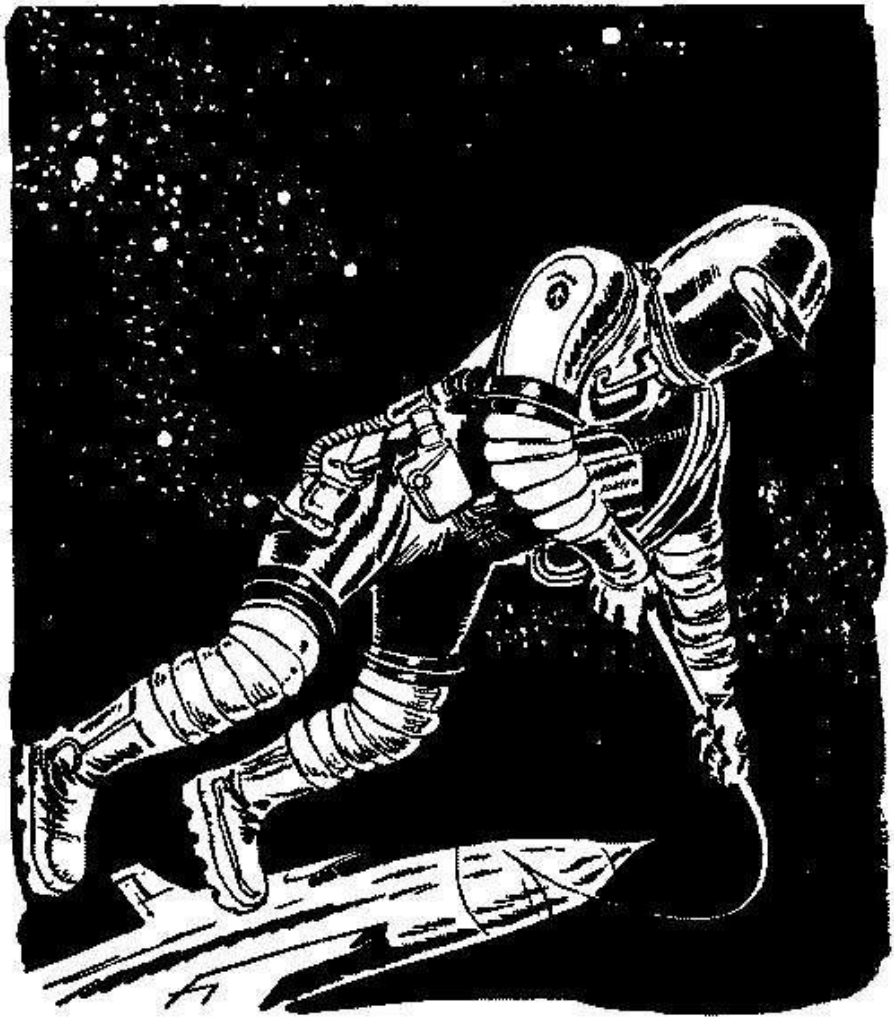
"O.K., Roger!" he called into his intercom. "Open up number one."

"Number one, aye," replied Roger. "And watch yourself, you big baboon. Don't burn your nose!"

"Go ahead, go ahead!" growled Astro in reply.

A long tongue of flame shot out of the exhaust of the number one tube and, after drawing back momentarily, Astro watched the tube keenly.

"You know," he commented idly as he kept his eyes fixed on the tube, "I still can't figure out what's so different about these tubes. They're exactly the same as any others I've ever seen."



"That's how much you know, Astro," snorted Roger. "Dave Barret said they were using a new duralumin alloy in the tubes."

"Still doesn't look any different to me," persisted Astro. "And for us to spend four whole days out here testing them"—he paused and shook his head —"seems like an awful waste of time," he concluded.

"What do you care? We're out in space, aren't we? Or would you rather be back on guard duty?"

"No, of course not," replied Astro. "But even space gets dull after a while with nothing to do. Barret sure gave us an old crate. Not even a long-range receiver aboard."

"What do you want to listen to?" snorted Roger. "Flight orders and all the rest of that rocket wash?"

"Be a relief to listen to somebody else beside you for a change," snapped

Astro. "Anyhow, suppose something important happened. Suppose our orders were changed. How would we know about it?"

"What difference does it make?" replied Roger. "We've got our orders—straight from Barret. As long as we follow them, we won't get into trouble."

"For a change," murmured Astro.

"Now cut the griping and finish up out there!"

"O.K.," sighed Astro. "That's enough on number one. Give me number two."

The ship bucked slightly as one rocket tube was cut out and another flared at full power, but Astro clung to the hull tightly, continuing his observations. With troubled eyes he watched all four rocket tubes in operation, unable to understand the difference between these tubes and the standard makes. Finally he shrugged his shoulders, and rising to his feet, called Roger again.

"That's enough, pal," he said. "I'm coming in."

"O.K.," replied Roger from the control deck. "And don't fall all over your big feet."

In five minutes the Venusian cadet was inside the air lock again, and as the pressure was boosted to equalize with the interior of the ship, he removed his space suit and helmet. He opened the inner hatch and stepped into the control deck to see Roger staring at the teleceiver in openmouthed astonishment. A harsh voice was coming over the loud-speaker.

"… Order you to cut all power and stand by for a boarding party, or I'll open fire immediately!"

With an exclamation of startled surprise, Astro rushed to the teleceiver screen and saw a man in the uniform of the Solar Guard, his face grim and purposeful. Just as Astro was about to speak, the officer spoke again.

"Did you hear me? This is Captain Newton aboard the cruiser *Regulus*! I order you to cut all power and stand by or I'll open fire! Acknowledge!"

"Roger," gasped Astro, "what's this all about?"

"I—I don't know," stammered the blond-haired cadet. He grabbed the teleceiver microphone and called into it rapidly.

"Rocket scout 4J9 to *Regulus*. This is Space Cadet Roger Manning. There must be some mistake, sir. Cadet Astro and I are out here on special assignment for the Space Projectile project."

"I know who you are!" shouted Newton. "If you don't stand by, I'll open fire! This is your last warning!"

Astro grabbed the mike from Roger's hand.

"All right!" he bellowed. "We don't know what it's all about, but for the love of Saturn's rings, don't start shooting."

Captain Newton nodded grimly. "Very well," he said. "Bring your ship to a dead stop in space and open your starboard air lock. I will send a jet boat over to you."

"Aye, aye, sir," said Astro.

When the Solar Guard captain signed off and his image faded from the

teleceiver screen, Astro and Roger numbly complied with Newton's abrupt orders, bringing the ship to a dead stop in space and opening the starboard air lock. Then the two cadets sat in the main deck of the small scout and waited, their faces showing their concern. Neither felt like talking. They were so confused that they didn't know what to say. Finally Roger got up and in a daze walked to the chart table to note the time of the tests in the log. Then he automatically logged the time of Newton's order.

Suddenly he threw the pencil down and turned to Astro.

"Blast it!" he shouted. "What's this all about?"

Astro merely grunted, shrugged his shoulders, and slumped further down in his chair. The big cadet was worried. Anything that threatened his career at the Space Academy made him literally tremble with fear. In his whole life there was never anything that he wanted more than to be an officer in the Solar Guard. And the only way that could be accomplished was by being a Space Cadet. Now he was under arrest. He didn't stop to reason why. All he knew was that it was a direct threat to his future as a power-deck officer in the Solar Guard.

The two boys felt the metallic thump of something hitting the hull of their rocket scout. They realized immediately that it was the sound of the jet boat coupling on their ship and they turned to face the air-lock hatch.

Captain Newton was the first to step through the air-lock hatch and he was followed by six Space Marines, holding their ray guns leveled.

"I am Captain Newton of the Solar Guard, in command of the rocket cruiser *Regulus*," he announced. "I arrest you in the name of the Solar Alliance." The officer handed over the standard warrant that was used by the Solar Guard.

Roger read it slowly. It was a simple warrant for their arrest, on the grounds of desertion, taking a Solar Guard vessel without permission, and being absent without leave from Space Academy. Stunned, the cadet handed it to Astro who had been reading it over his shoulder, his face white with shock.

"And I warn you, Cadet Manning," continued Newton, "that anything you say from now on may be used against you."

"I understand, sir," said Roger, dazed.

"Then do I have your word," said Newton, "on your honor as Space Cadets, that you will not make any attempt to escape or in any way jeopardize my authority over you?"

"Yes, sir," nodded Roger.

"On my honor, sir," said Astro, gulping, "as a Space Cadet."

"All right," said Newton. "Then I'll let you take the scout back to the Academy yourselves. I'll escort you in the *Regulus*."

He turned to the squad of Space Marines and nodded. They filed into the air lock and Newton followed slowly. He paused in the hatch and looked back at the two cadets, a momentary gleam of sympathy in his eyes.

"You'd better be prepared for a rough time, boys," he said. "Major Connel is going to haul you in front of a court-martial as soon as you land."

"But what've we done?" Astro suddenly exploded.

"The charges are listed in the warrant, Cadet Astro!"

"But that's all wrong!" protested Astro. "We were ordered to—"

"Hold it, Astro," Roger interrupted. "Let's stop and figure this out first. We can tell our side at the court-martial!"

Captain Newton looked at the two boys piercingly for a second, then turned and entered the air lock, slamming the hatch closed behind him. Slowly and thoughtfully, Astro and Roger prepared to get their ship under way. They were still stunned by the sudden turn of events.

They had no idea what had happened. But they knew Dave Barret was at the heart of their troubles. They vowed silently that he wouldn't get away with it!

* * * * *

This time it was not a cadet court that Roger and Astro faced. It was a five-man board of Solar Guard officers, consisting of four captains and one major, who conducted the court-martial in closed session. Only the defendants and the complaining witnesses were allowed to be present. The evidence the board heard was as damaging to the boys as it was bewildering. Major Connel testified to their being absent without leave and taking a Solar Guard space vessel without permission. Firehouse Tim Rush stated that they had deserted their stations. When Roger was called to the stand, he entered the only defense he could, stating that he and Astro had been operating under Dave Barret's orders. The board immediately called Barret in to testify and his words blasted the cadets' case to smithereens.

"… I have no idea what they were doing out in that rocket scout," he stated calmly. "I certainly didn't send them up on any such ridiculous tests. If you will examine the exhaust tubes of that ship, you'll see that they're made of standard materials used in all Solar Guard ships." He turned to the board, casually. "No, gentlemen," he continued, "I don't know what these boys are talking about. You can call Professor Hemmingwell in, if you like. I'm sure he'll vouch for what I've said."

As Barret stepped down from the stand, Astro lunged toward him, blind with anger and shouting his fury. It took six Space Marines to force him back to his chair. Roger merely sat, staring blankly into space, a wry smile curling his lips. He clearly saw the trap into which he and his unit mate had fallen, and there was no way out.

The board didn't deliberate very long after the last testimony was taken. When they returned to the chamber, the presiding officer addressed Roger and Astro directly, asking formally whether they had anything to say before

sentence was passed. Roger stepped forward.

"I have something to say, sir," he said in a quiet but firm voice.

"Very well," nodded the major.

"Sir," began Roger, with a glance at Astro, "this is not a plea for mercy but understanding. We are, it is true, nothing but boys in training to become officers of the Solar Guard. One of the most important parts of our training is how to take orders without question. Now at this trial, we have been accused of three specific instances of misconduct. We can offer no other defense than what we have already claimed. Major Connel and Warrant Officer Rush have stated that we should have cleared Barret's orders with them first, since Barret is only a civilian and has no right to give us orders. That may very well be true. But I submit this for your consideration, gentlemen—" Roger paused and looked up and down the line of stony-faced officers. "What would have been your judgment," he resumed, "if Dave Barret had asked us to do these things and we had refused? Would you have been less hard on us? That's all, sir."

Roger stepped back abruptly and the officers stirred uncomfortably. They recognized the merit in Roger's statement, and had not the decision been made, there was more than one who might have reconsidered, remembering their own difficulties as Space Cadets. However, the presiding officer picked up a sheet of paper and addressed the boys coldly.

"While I must compliment Cadet Manning for his admirable statement," he said, "it does not change the decision of this board. Normally, these offenses would be punished by immediate dismissal from the Cadet Corps. However, in view of their past record at the Academy, it is the decision of this board to exercise some lenience. Cadet Roger Manning, Cadet Astro, you are sentenced to serve on the enlisted man's work gangs here at Space Academy for a period of exactly six months. All pay and privileges to be denied during that time. Case is closed!"

CHAPTER 13

"Atom City rocket liner now loading on Ramp Two!"

The metallic voice of the dispatcher echoed through the waiting room of the subspaceport on the outskirts of Marsport and the passengers began moving toward the field gate, where the stewards of the ship checked each ticket against the liner's seating plan. Near them, a squad of four Space Marines scrutinized all passengers carefully as they boarded the waiting jet cars that would take them to the ship far out in the middle of the field.

Tom Corbett sat at the refreshment stand in the waiting room, sipping a glass of milk thoughtfully and eying the squad of Space Marines. He wore a big-billed hat pulled low over his face and a tight-fitting black jacket, the standard uniform of a merchant spaceman.

"Anything else?" asked the pretty waitress behind the counter.

"Yeah," growled Tom. "Gimme another glass of milk and another of these crummy sandwiches."

"Well, you don't have to be rude about it!" snapped the girl. "Somebody should teach you space tramps some manners!"

As she flounced off angrily the young cadet smiled. He knew his disguise must be good indeed to fool this young girl, who met hundreds of people at the spaceport every day and could easily recognize a person for what he truly was. Now his only hope was that the disguise would fool the squad of Marines at the gate.

After having abandoned the jet truck, Tom had moved through the glittering city of Marsport carefully, keeping to the dark alleys and shadows. Gradually he had worked his way back to the area around Sloppy Sam's where, for a few credits, he had been able to buy a merchant spaceman's clothes with no questions asked. He buried his cadet uniform in the loose ground near a construction project.

Then, staying in the area, he wandered in and out of the dingy bars and restaurants looking for the man he had seen at the spaceport, the driver of the truck that had crashed the fence.

He spent three days in his search, not daring to ask questions, simply keeping his eyes open for the man. Finally he had been forced to abandon the search when he saw a stereo newscast reporting that the missing cadet, Tom Corbett, had been traced to Skid Row. He decided that it was time to leave Mars and went to the huge main spaceport, hoping to get aboard a ship bound for Earth. But the Space Marines were stationed at every gate, examining each

departing passenger carefully, and Tom knew it would be impossible to get past them. Then he noticed a poster advertising special non-scheduled flights to Atom City, Earth, at reduced rates, that would blast off from a subspaceport on the outskirts of the city. With renewed hope, he had gone there immediately and bought a ticket. Space Marines were on guard here too, but only a small squad. The cadet resolved to make his break here. He had no other choice.

"Here's your milk!" said the waitress, slopping it down on the counter before the cadet. "And your sandwich!"

Tom saw that the Space Marines were watching the passengers very closely

Tom paid for the order and took his time about chewing the stale sandwich. He knew he had to get aboard the ship that was loading now, but the Space Marines were watching the passengers very closely. Suddenly Tom saw a

spaceport attendant race up to the squad and hand a message to the sergeant in command of the squad. Leaving the counter, Tom walked quickly to a newsstand near the gate, where he could stand close to the Marines. The sergeant read the message quickly and turned to his squad. Tom strained his ears to listen.

"We have to move out of here or we'll never get out," he said. "There's a Martian sandstorm coming this way. It should hit in about fifteen minutes. This will be the last flight. Then nothing will get off the ground until it blows over. May last for days."

"But what about that cadet?" asked the man nearest to the sergeant. "What if he shows up?"

"Just about all the passengers for this flight are aboard now," growled the sergeant. "Besides, do you see him anywhere?"

Tom turned his back to the troopers quickly and heard the Marine reply, "Naw."

"Then get your gear and pile on the truck outside," ordered the sergeant, "or we'll be living in this station for a couple of days."

The Marines quickly marched away from the gate, through the waiting room, and out the door.

Tom dug into his pocket for the ticket to Atom City and stepped quickly to the gate, presenting his ticket to the steward. "Spaceman Wilson!" Tom growled.

The steward checked his ticket casually and announced, "Seat fourteen, berth twelve!"

Tom walked through the gate, trying to look casual.

"Hey you!" There was a sudden cry of alarm behind Tom and for a moment he was tempted to run. But he turned slowly and looked back. The man at the newsstand was shouting at him.

"Ya tryin' to steal my paper?" he yelled.

Tom looked down and saw that he was still holding the paper he had picked up to hide his face from the Marines. He smiled, reached into his pocket for a coin, and flipped it back to the man.

"Sorry," he called and walked on.

He hurried through a tunnel to the open area of the field where the other passengers were waiting in jet cars. He slipped into the nearest one and settled down beside a fat woman. She looked at him archly, sniffed audibly, and turned to stare out the window. Tom merely grinned and settled deeper in the seat. In a moment the jet cab was speeding across the small field to the waiting passenger ship.

Safely inside the ship, Tom sank into his assigned seat, buckled his acceleration belt, and listened to the voice of the skipper counting off the seconds until blast off.

"Five, four, three, two, one, *zero*!"

There was very little acceleration shock, since this was a vessel designed

for the comfort of the passengers. In fact, Tom found it difficult to determine just exactly when it left the ground. The force of the drive pushed him deep in his seat, to be sure, but it was a gradual pressure and not at all like the sudden violent jerk that came when he gunned the *Polaris*.

He smiled. There was considerably less power in this ship than in the *Polaris*!

The thought of the giant rocket cruiser made him think about Roger and Astro. He wondered what they were doing and if they had stayed out of trouble.

During the trip back to Atom City, Tom kept to himself, avoiding the other passengers on the ship as much as possible, taking his meals in his berth. The cadet had a lot of thinking to do. Though temporarily safe, he knew he couldn't dodge the Solar Guard forever. He kept track of his pursuit by stereo newscasts which the ship picked up from both Mars and Earth, and he was pleased to learn that the Marines and Solar Guardsmen were still searching for him in Marsport.

There was one bit of information that was general news to the others on the ship, but of particular interest to Tom. He had sat up in his berth and listened.

"… The report of a sabotage attempt on a highly secret project now in progress at Space Academy was denied today by project officials and Commander Walters. The commander said there was no basis for the report that the entire control panel of a new type ship had been destroyed."

Tom switched off his set and settled back in his bunk. He saw through the denial by Commander Walters. There was no need to upset the public and, more important, let the saboteur know how successful he had been.

Though Tom knew who was responsible, this knowledge did not mean much while he was still a fugitive. He would have to have proof. He would have to have more than just *his* word and accusation to make his charges stick. But how to get it?

"Attention," boomed the voice of the captain over the ship's loud-speaker. "Fasten your deceleration belts, please! We land at Atom City in thirty minutes. Fasten your deceleration belts, please!"

Certain he wouldn't be seen by the passengers and crew strapped in for the landing, Tom slipped out of his berth and down the companionway to the luggage compartment. Safely inside, he examined the contents of several expensive-looking bags, opening them by springing the locks with his knife. Finally he found a set of civilian clothes that would fit him. Leaving a hundred credits in the suitcase, more than the clothes were worth, he returned to his berth where he quickly washed, shaved, and dressed in the stolen clothes, steadying himself against the lurching of the ship as it made its landing approach.

When the ship finally touched down at the Atom City spaceport, Tom waited in his berth until he was sure most of the passengers had left. Then he walked quickly out of the ship, head down and hat pulled low over his face, to

lose himself in the crowded spaceport.

Safe for the time being, at least until the Solar Guard traced him to Earth, Tom moved openly through the streets of Atom City and went directly to the monorail station where he purchased a ticket for Space Academy. He boarded a local train instead of the express and rode the jet-propelled train in the comfort of the dining car where he had a huge meal.

The stop before the Academy was a small village that catered to the wants of the hundreds of civilian workers at the Academy spaceport. Tom had been there many times with Astro and Roger, and knew of a small hotel where he could hide out until he could contact his unit mates.

It was early evening when Tom registered at the hotel under the name of Joseph Cazippi, an engineer from Titan Colony. Safely in his room, Tom turned to the window and stared longingly at the Tower of Galileo in the distance, as it caught the last of the sun's rays and gleamed proudly against the gathering night sky.

He whirled away from the window and froze as someone knocked on the door and a young voice called:

"Lemme in, Tom!"

The young cadet gulped in fear. Someone had recognized him! He wondered if he should open the door or slip out of the window and leave.

"Hey, Tom!" the voice called. "This is Tiny! Come on, lemme in."

"Tiny!" shouted Tom in swift relief. He opened the door and a small boy of about twelve stepped inside.

"Hiya, Tom," greeted the boy enthusiastically.

Tom grinned his welcome. He and Roger and Astro had met the youngster on several of their trips to the village and had become great friends. They always had to tell him stories about the Cadet Corps.

"How did you know I was here, Tiny?" asked Tom.

"I followed you from the monorail station," replied the boy. "You couldn't fool me in those civvies. Where's your uniform?"

"Never mind that now," said Tom, kneeling before him. "Look, Tiny, can you keep a secret?"

"Sure!" said the boy gleefully. "Sure I can, Tom."

"Well, I'm on a secret assignment, see?" whispered the cadet with a conspiratorial air. "And I need someone like you to help me. But you can't tell anyone I'm here!"

"Sure, I understand, Tom. Whatcha want me to do?"

"Go to the Academy and find Astro and Roger. Tell them to come here at nine o'clock tonight. But remember, don't talk to anyone else!"

"O.K.!" replied the youngster. "I getcha! You going to catch spies, Tom?"

"I don't know yet, Tiny. But you do what I told you and then hurry right back to me and tell me what they said!"

The boy nodded and hurried off. From the window, Tom watched him climb on his jet bike and roar off into the gathering darkness toward the

Academy.

It was nearly two hours before he heard the jet bike return and he hurried to the door, waiting impatiently for the boy to come in. When the door opened and Tiny stepped in, Tom sensed immediately that something was wrong.

"Tom!" gasped Tiny, his eyes wide with shock. "You know what happened?"

"What?"

"Roger and Astro—" the boy stopped, seemingly unable to go on.

"Didn't you see them?" demanded Tom.

"Naw, I couldn't. They wouldn't let me."

"Who wouldn't let you?"

"The guards."

"What guards? What are you talking about, Tiny?"

"The guards at the jail! Roger and Astro are on the enlisted man's work gang for six months!" said Tiny.

Hiding his shocked surprise, Tom hurriedly gave the boy a ten-credit note and swore him to silence.

"Now you hurry home, Tiny, and don't tell anyone you've seen me!" he said.

"O.K., Tom," replied the boy. "But what does it all mean?"

"I wish I knew," said Tom grimly. "And when I find out, Tiny, I promise you I'll let you know."

When Tom was finally alone, he stood at the window, staring at the gleaming tower, now lighted and shining brilliantly in the darkness. He suddenly felt that he would never see the tower again.

CHAPTER 14

"Stand clear!"

Professor Hemmingwell's voice rang over the roar of activity in the hangar as the huge new control panel was lifted along the hull to a large hole that had been cut into the side of the experimental ship at the control-deck level.

"Easy does it!" called the professor, standing on the deck and peering through the hole. "Careful now!"

Now even with the hole, the panel was slowly pulled into the ship by the workers. Even Major Connel and Steve Strong lent a hand, setting it into place. When it had been securely anchored, a team of technicians swarmed over the panel to begin the intricate work of connecting all the controls to the various parts of the ship, and Hemmingwell and the two Solar Guard officers stepped back to watch them.

"This puts us back on schedule now," said the professor, turning, red-eyed and tired, to Connel and Strong. "It was a good idea of yours, Steve, to prefabricate the panel and have it put into position all at once. If we had tried to install it piece by piece, we'd be weeks behind."

"Good work, Steve," Connel chimed in.

Strong merely nodded his thanks. He was tired. More tired than he had ever been in his life. Not only had he supervised the construction of the new control panel, but he had been working on a special report to present to the Solar Guard Review Board requesting another trial for Astro and Roger. And he had spent every spare minute haunting the MP headquarters of the Solar Guard for word of Tom. So, he accepted the compliments of Connel and Professor Hemmingwell with little enthusiasm.

"You better get some rest, Steve," said Connel, aware of Strong's attitude. "I know how hard you've been working these past few days. So knock off and I want your word that you will go back to your quarters and get some sleep!"

"Sorry, Major," replied Strong, "I can't give you my word about that."

Connel's face darkened with anger. "All right! Then do what you want. Get out!" he shouted.

Strong merely nodded and left the ship.

Outside the hangar, he stopped suddenly when he saw Dave Barret step off the slidewalk from the Academy and stride toward him. The young captain clenched his teeth in sudden anger. He had talked to Astro and Roger many times since they had been put on the work gang and they swore that their story of their ill-fated flight was true. Strong could not believe that they would lie.

He had been too close to them and had, many times, put his very life into their hands. But there seemed to be no way to break Barret's story. He waited for the man to pass him.

"Good morning, Strong," said Barret, as though surprised. "Well, how's the genius? Get the control panel in this morning?"

Barret was annoyed that Strong's plan to replace the control panel had been accepted over his own. The captain returned his cold stare and nodded.

"It's in," he said, and then added, "I would like to ask you a few questions, Barret."

"Sorry, haven't got time!" replied Barret curtly as he tried to brush past Strong. But the young captain grabbed him by the arm and spun him around.

"Make time!" he snarled. "I want the straight story about that so-called test flight!"

Barret glared at Strong. "I suggest that you let go of my arm, Captain," he threatened, "or I will be forced to bring charges of assault against you!"

Realizing an open fight would be useless, Strong released his grip on the man's arm and turned away quickly. Barret's mocking laugh echoed in his ears as he stepped on the slidewalk and glided away toward the Academy. Behind

him, the big hangar buzzed with the sound of men working in high gear again. The mighty ship and its specially designed equipment seemed at last to be ready for testing. But Strong felt none of the excitement. It mattered little to the Solar Guard captain whether the project was a success or failure. His thoughts were of the three cadets in his unit, who were, first and foremost, his responsibility.

With double guards around the hangar area and even tighter security restrictions than before, the unknown saboteur was unable to attack the precious ship again. But he struck elsewhere. The single track monorail that Barret had run into the area was blocked by an explosion in the mouth of the tunnel. Nearly a thousand tons of rock and earth had fallen on the hangar side, blocking delivery of vital equipment.

With powerful earth-moving machinery, the tunnel was cleared of the heavy rocks and dirt, and all that remained was a general cleaning up, and the enlisted man's work gangs had been assigned to that job.

Nearly a hundred tough, battle-scarred spacemen from the enlisted ranks of the Solar Guard worked in the area, stripped to the waist, their bodies burned brown from the sun. Sent to the work gang for petty offenses, rather than for criminal acts, the enlisted men as a whole did not mind the work. They were under guard, watched by a squad of Space Marines armed with paralo-ray guns, but there was no attempt to make the men feel as if they were criminals. Most of the sentences were short, usually running from five to thirty days, with some extreme cases serving as long as three months. But no one had ever remembered a Space Cadet working on the squad, and particularly for six months! It was an extraordinary situation and the guards, as well as the men on the work details, sympathized with Roger and Astro. They realized that nothing really serious had been done, or the boys would have been sent to the prison asteroid, where all true criminals were sent. So a true spirit of comradeship developed between the cadets and the enlisted men.

When Captain Strong arrived to speak to Roger and Astro, he found them in the tunnel, working as a team of a shoveler and a sweeper. Roger would sweep up a little pile of dirt and Astro would shovel it into a handcart nearby.

"All right, you Venusian pug!" bawled Roger. "Police the joint!"

Astro scooped up the little pile of dirt neatly and deposited it in the truck.

"Manning, what made the spaceship cross to Pluto?" he asked.

"To get to the other side of the universe," said Roger.

"All right," interrupted Strong. "If you two will cut out the comedy, I'd like to talk to you."

"Captain Strong!" yelled Roger. "Hey, fellas! Look!" He turned to the other men on the work gang. "We're special characters! See? We have visitors during working hours!"

Strong laughed with the others, and then motioning for Roger and Astro to follow him, walked to an isolated corner of the tunnel.

"How is it going?" he asked.

"Fine, sir," said Roger. "We have no complaints."

"Yeah," chimed in Astro with a grin. "The food is better here than at the Academy!"

"Give this Venusian bum a good kitchen and he'd go to the Rock!" Roger laughed.

Strong noted their lean, brown bodies and decided that a little work in the sun with a pick and shovel had done them good. But six months of it would interfere with their work at the Academy and could hold them back.

He told them of the work he had been doing to have their case renewed by the Solar Guard Review Board and asked them for any special details in their relationship with Barret that might lend weight to his plea for outright pardon, rather than just a commutation of sentence. He wanted it clear on their records that they had been accused unjustly, and that, therefore, their sentence was an error.

But neither Astro nor Roger could add anything to what the young captain already knew. He finally turned to leave, cautioning them both to stay out of trouble, especially Roger.

"Manning," he warned, "your mouth is your big weakness. I'm detailing Astro to make sure it stays closed!"

"You see?" gloated Astro. "You see who the captain trusts!"

"Listen, you big bum!" began Roger angrily, then stopped and grinned. "O.K., Captain Strong, I'll keep on the ball."

"You'd better," Astro interrupted, "or I'll stand you on your head!"

With a pat on the back, Strong left them. Just as he was about to leave the tunnel, Roger called after him:

"Have you heard anything about Tom, sir?"

"Not a word," replied Strong grimly. "So far as I know, he's still on Mars."

"A—a fugitive?" asked Astro.

"Yes, Astro. The Solar Guard is still looking for him."

Strong watched the two cadets turn back to their work dejectedly, and then, sighing with weariness, he headed back to the slidewalk. In the morning he would check the reports of the Security Section for word of Tom. Then he squared his shoulders determinedly. He would check them now!

He could not go to bed yet. Not while Tom was still missing and while Astro and Roger were on the work gang. He would not sleep until they were free and the *Polaris* unit was together again out in space!

* * * * *

Tom Corbett was also unable to sleep. He had spent the night in the village hotel tossing and turning, his mind seething with plans to aid Roger and

Astro.

Finally, at dawn, he got up and sneaked out of the hotel. Avoiding the convenience of the monorail, he struck out on foot over the rugged countryside for Space Academy. He had a plan, but the plan required that he talk to Roger and Astro first, and then to Captain Strong, but it had to be done secretly. He realized that his knowledge of the identity of the saboteur would be a more effective weapon if everyone still believed he was on Mars.

After getting close enough to the Academy to use the slidewalk system crisscrossing the huge area, he loitered on the crowded platforms which connected the hangar, the Academy, and the spaceport. He kept his coat collar high and his civilian hat pulled low over his eyes.

He was on the main slidewalk, moving toward the Tower building, when his eyes picked out the familiar close-cropped blond hair of Roger and the unmistakable bulk of Astro on the walk leading to the hangar. Changing at the slidewalk intersection, he took off after them, hoping he would not be noticed in the crowd of civilian workers. Roger and Astro were carrying tools over their shoulders and were lagging behind the main body of workers moving toward a huge tunnel opening. Tom saw his chance and moved up quickly beside them.

"Keep walking and don't show surprise!" he whispered sharply.

But it was too much to ask. Astro and Roger jumped in surprise and let out involuntary shouts of joy, which attracted the attention of the guards. They noticed the stranger in civilian clothes and stared at him.

"Tom!" exclaimed Roger. "What the devil are you—?"

"Sh!" hissed Tom. "We haven't got much time." He saw one of the guards turn and stare at him. "Listen to me," he continued quickly. "I've got important dope about the saboteur!"

"How?" gasped Astro.

"Never mind," replied Tom. "Now, to nail him, I've got to get him into the act! I need proof!"

"But who is it?" asked Roger.

"I can't tell you now. Here comes the guard. Are you going to be working around here long?"

"At least another three days," said Roger. "But who—?"

Roger noticed the guard move up to them and he suddenly straightened up and snorted derisively, "Yeah. But why a guy should want to join the Solar Guard is more than I can see. You must be wacky, mister!"

He and Astro walked away, and after a hesitant look at Tom, the guard followed the two cadets. Tom boarded the slidewalk heading back toward the Academy. So far, so good. He knew where his unit mates were, but up ahead, in the gleaming Tower of Galileo, was his second target, Captain Strong. His skipper had to listen to him, had to be sympathetic and help him catch the saboteur. It was the only way Tom could clear his own name and free Roger and Astro.

CHAPTER 15

"Scott!"

"Here!" bellowed a grizzled spaceman in reply to Major Connel's call.

"Augutino!"

"Here!"

"Jones!

"Present!"

"Smith!"

"Here!"

"Albert!"

"Here!"

Connel checked the last name on the clipboard and turned to Professor Hemmingwell standing beside him at the base of the ship. "All present and ready, sir."

"Fine!" said the professor. He turned and looked around. "Where is Dave?"

"Here he comes now," said Connel.

They both watched Barret stride toward them, his arms loaded with gear.

"This is the stuff I told you about, Professor," he said as Hemmingwell looked at it curiously.

"What stuff?" asked Connel.

"Portable heaters for the crew's space suits, just in case—" Barret paused meaningfully.

"In case of what?" growled Connel.

"Why, ask them!" replied Barret, gesturing toward the group of civilian crewmen who had been selected for the test flight of the spaceship.

Connel turned to look at them, then back at Barret. "Ask them what?" he barked.

"How they feel about making this flight," said Barret.

Connel scowled and turned to the men. "Is there anything to what he says?" he demanded.

The men shuffled their feet nervously but did not reply.

"Well?" exploded Connel.

"See, they're afraid of you, Connel," said Barret, deliberately omitting the courtesy of using the major's title.

Ignoring Barret's thrust, Connel continued to face the men. "Is that right, men?" he shouted. "Are you afraid of me?"

There was a mumble from the group and then the man named Scott, a

thick-set individual with black flashing eyes, stepped forward.

"Speaking for myself," he said, looking straight at the major, "I'm not afraid of anything that walks. And that includes you, Major Connel. No offense meant, it's just a statement of fact." He paused and drew a deep breath. Then he added, "But I am afraid of this ship."

"Why?" demanded Connel, who could not help admiring the man for his straightforward approach.

"She's junk-jinxed," said the man, using the expression of spacemen who believed a ship with a suspicious accident record should be junked because it was jinxed.

"Junk-jinxed!" cried Connel, amazed.

"Preposterous," snorted Professor Hemmingwell. "Why, you helped build this ship, Scotty! Do you doubt the work you've put into her? Or the work of your friends?"

"That has nothing to do with it," replied Scott stubbornly. "The others feel the same way I do."

Barret stepped forward. Arrogantly and before Connel could stop him, he began addressing the men. "Listen, you men!" he shouted. "You're being childish! Why, you built this ship! How can you possibly allow yourselves to be so stupid as to believe in an idiotic thing like a jinx. Now, why don't you just get aboard and stop being so ridiculously superstitious!"

Connel could have reached out with one of his big hands and squeezed Barret's neck to shut him up. Instead of allaying their fears, which even he would admit were real enough, the man was creating further resentment with his attack on their pride as thinking, reasoning men.

"All right, all right!" he bellowed. "That's enough for now, *Mister* Barret!" He turned to the men and he could tell by the expressions on their faces that he had lost them. They would not take the ship aloft. But he had to try.

"Now listen," he growled. "This is a very important project and someone has been trying to get us to wash out the whole idea. If you don't come through, he'll succeed. You are the best men in your fields, and if each of you attend to your particular job, then the ship will blast off and be a success! Now, how about it?"

He was met with the stony faces of men who were afraid. Nothing he could say or offer them would get them to take the ship off the ground. He tried a new tack. "I'm offering you *double wages*!" he roared.

The men were silent.

"Double wages *and* a bonus!"

Silence.

"All right! Beat it!" he growled. "Don't ever show your faces around here again!"

Connel turned to Professor Hemmingwell. "I'll see if I can't muster a crew from the ranks of the Solar Guard," he said.

"Major," said the professor, his face worn and haggard from the long ordeal

of completing the project, "I wouldn't want men *ordered* to man this vessel."

"They're in the Solar Guard and they take orders," said Connel.

"No," persisted Hemmingwell. "I will not let a man on that ship that does not want to go. Remember, Major, it is still my personal property."

"All right," said Connel grimly. "I'll see if I can recruit a crew from the civilian workers around the Academy."

But Major Connel encountered the same superstitious dread everywhere. The word had spread that the projectile ship was jinxed. Old tales of other ships that had gone out into space, never to be heard of again, were recalled, and the men found instances of similar prelaunching happenings on the projectile ship. Very little of it was true, of course. The stories were half-truths and legends that had been handed down through generations of spacemen, but they seemed to have special significance now.

Connel fumed and ranted, threatened and cajoled, begged and pleaded, but it was no use. There was not a man in the Academy who would set foot inside the "jinxed" ship. Finally, in a last desperate attempt, he ignored Hemmingwell's order and appealed to Commander Walters.

"No, Lou. I cannot order men to take that ship up," Commander Walters replied, "and you know it!"

"Why not?" argued Connel. "You're the commander, aren't you?"

"I most certainly am," asserted Walters, "and if I want to get other things done in the Solar Guard, I can't order men to take a jinxed ship off the ground." He looked at Connel narrowly. "Do you remember the old freighter, the *Spaceglow*?" he asked.

Connel frowned but didn't reply.

"You were mate on that ship before you enlisted in the Solar Guard," persisted Walters. "And I read the log of your first trip when you wrote, and I quote, 'There seems to be some mysterious and unanswerable condition aboard this vessel that makes her behave as if she had human intelligence…'"

"That has nothing to do with *this* situation!" roared Connel.

"They're alike! You couldn't get a crew on that wagon in any port of call from Venus to Jupiter!"

"But we found out what was wrong with her eventually!"

"Yes, but the legend still exists that the *Spaceglow* had intelligence of its own!" asserted Walters.

"All right," snorted Connel. "So we have to fight superstition! But, blast it, Commander, we're faced with a saboteur. There's nothing supernatural or mysterious about a man with a bomb!"

Connel turned abruptly and walked out of the commander's office, more furious than Walters had ever seen him.

Back at the hangar, Connel faced the professor. It was a tough thing to tell the elderly man, and Connel, for all his hard exterior, could easily appreciate the professor's feelings. After many years of struggle to convince die-hard bankers of the soundness of his Space Projectile plan, followed by sabotage

and costly work stoppages, it was heart-rending to have a "jinx" finally stop him.

"I'm sorry," said Connel, "but that's the way things are, Professor."

"I understand, Major," replied Hemmingwell wearily. He turned away, shoulders slumping, and walked back to his tiny office in the shadow of the mighty ship that was anchored on the ground.

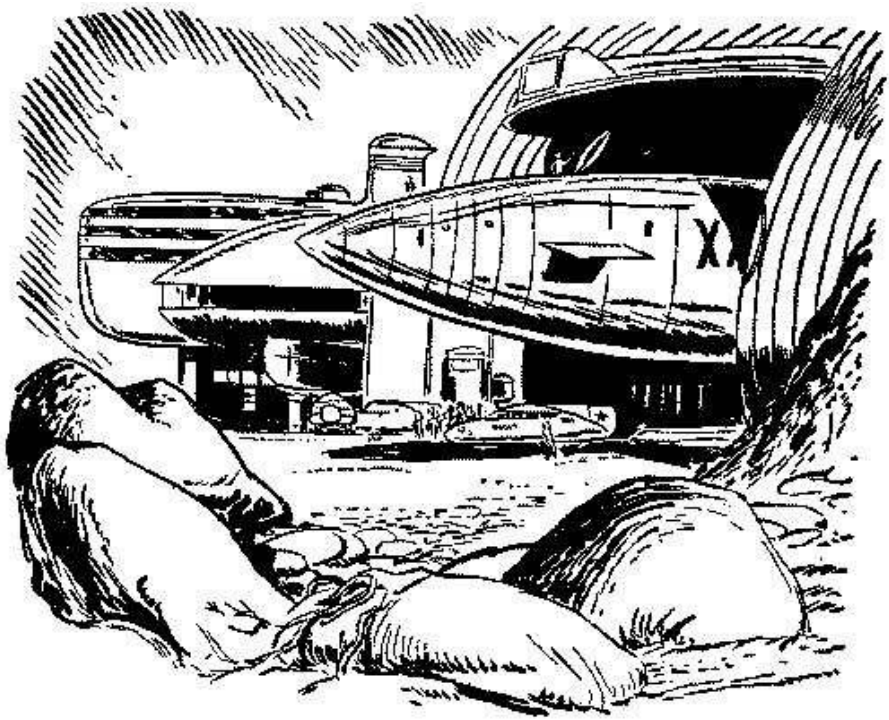
"May I speak to you a moment, Major?" a voice broke the silence in the hangar.

Connel turned around slowly. "You!" he exclaimed. "If it hadn't been for you and your big mouth, this ship might be in space right now!"

"Stop blowing your jets!" snapped Dave Barret. "I want to see this ship in space as badly as you do. Perhaps even more so. But listen, I'm not afraid of the jinx. Neither are you, nor is Professor Hemmingwell. We're spacemen. And we know the operation of every piece of equipment on that ship. What's to prevent us from taking her up?"

Connel looked at the young man, immediately recognizing the value of his suggestion. He nodded his head curtly. "All right," he said. "I'll take you up on that."

Barret grinned, stuck out his hand, and after a friendly shake turned and ran to the professor's office. Connel walked back to the outside of the hangar and began bellowing orders for the giant ship to be brought out to the blast ramp and prepared for the blast-off.



But Dave Barret did not go directly to Professor Hemmingwell's office. He made one stop. Looking around quickly to make sure that he was not observed, he slipped into the teleceiver booth and made a hurried call to an Atom City number. When a gruff voice answered, he merely said three words:

"It's all set!"

* * * * *

Roger and Astro were some distance away from the main gang, working at the tunnel mouth overlooking the hangar area.

"Look, Astro," said Roger. "They're bringing out the ship. They must be ready to blast off!"

Astro stopped his work momentarily and stared as the huge ship was inched out of the hangar, resting on her tail fins, her nose pointing skyward.

"I'd sure like to be bucking the power deck on that baby," sighed Astro.

"Yeah, and I'd give my eyeteeth to see that radar deck," said Roger. "It must be really something with all the gear to control those projectiles when they're released."

"Do you believe any of that talk about her being jinxed?" asked Astro.

"Stop being a Venusian lunkhead!" snorted Roger. "The only thing wrong with that ship is a rocket-blasting clever saboteur."

"You know," said Astro, "I've been thinking."

"Don't strain yourself," snorted Roger. But when Astro failed to reply in kind, the blond-haired cadet realized he was serious. "What is it?" he asked.

"Why, in the name of the moons of Mars, would Barret want to do the things he did to us?"

"Simple," said Roger, beginning to sweep industriously as he saw the guard walking toward them. "He didn't like the way we manhandled him."

"You think he was just getting even with us?" asked Astro, also resuming work.

"What else?" asked Roger. "We made him look pretty silly. And that was no love tap I gave him that night we caught him in the hangar."

"That's what I mean," said Astro. "I know Major Connel said he was supposed to be there. But with that teleceiver conversation I overheard and all the rest—well, I just don't get it," he concluded lamely.

"You'll get it in the neck if you don't watch out," said Roger. "Here comes Spike and he doesn't like to see us loafing!"

The two cadets worked steadily for ten minutes, and when the guard finally walked away, they paused to watch the big ship again.

"I wonder what Tom is up to?" said Roger thoughtfully. "He said he knew who the saboteur was, but he needed help to prove it."

"I'd give a full year's leave just to get my hands on that guy for ten minutes," said Astro.

"Yeah," grunted Roger. "Well, come on, hot-shot, we still got a lot of cleaning to do."

They returned to their work, but even then, as they watched the preparations for the take-off of the big ship, they both thought about Tom. They knew his problems were as difficult as their own, and with much more at stake. If Tom failed in his efforts to catch the saboteur, it could very well mean the end of the *Polaris* unit.

CHAPTER 16

"*Bump-ty—bump-ty—bump-ty—*"

Tom Corbett's heart beat with such rapid, heavy drumming that the young cadet felt as though it was going to tear itself right out of his chest.

For nearly six hours Tom had lain in wait in Galaxy Hall, the museum of Space Academy, on the second floor of the Tower building. He was hiding in the tail section of the *Space Queen*, the first rocket ship to breach space safely, blasting from Earth to Luna and back again. He had kept watch through a crack in the hull of the old ship, waiting for the lights to go out, a signal that the Academy had bedded down for the night.

Now, in the silence of the museum, surrounded by the ancient objects that traced man's progress to the stars, Tom felt like crying. For as long as he had been at the Academy, he had revered these crude, frail objects and wondered if he would ever match the bravery of the men who used them. Now, unless his plan was successful, he would be finished as a cadet and the dream of being an officer in the Solar Guard would vanish forever.

The Tower building had been quiet for over an hour. Tom had not heard any voices or movement other than the evenly paced steps of the guards patrolling their lonely beats outside.

He slipped out of the antiquated ship, and staying well in the shadows, moved out into the corridor to the head of the slidestairs. He peered over the railing to the main floor below and saw Warrant Officer Mike McKenny through the open door of a small office, seated at his desk, watching an evening stereo program. The young cadet jumped on the stairs quickly and rode the moving belt of plastic to the upper floors where the officers' quarters were located.

Tom was in great danger of discovery. No civilian was allowed on Academy grounds after taps. And he was still wearing the civilian clothes he had taken from the suitcase on the passenger ship from Mars. Silently but swiftly, he made his way from level to level toward the seventy-fifth floor.

He knew that there would be a guard stationed in the halls outside the officers' apartments and it would be impossible to elude him. He would simply have to brazen it out.

At the seventy-fifth floor the young cadet stepped off the slidestairs noisily, his heels clicking on the dark crystal floor, and strode down the hall. He was immediately seen by the guard who advanced to meet him, his ray gun at the ready. Tom was prepared.

"Guard!" he yelled.

The guard stopped in front of him, a puzzled look on his face. "Yes?" he replied.

"Sir!" snapped Tom. "Show me where Captain Strong's quarters are and be quick about it!"

"But who are—?" The guard started to protest, but Tom did not give him the chance to finish.

"Don't stand there like an idiot, man! *Move!*"

"Uhh—yes, sir," stammered the guard, obviously taken aback.

"Lead the way," continued Tom loudly. "I haven't much time."

"Yes, sir, but would you mind lowering your voice, sir? Some of the officers are asleep, sir."

"Well, get on then and stop jabbering!"

The guard turned quickly and started down the hall. Tom followed, hardly able to keep from smiling at the man's frustration and confusion.

They stopped at the door to Captain Strong's quarters and the guard rapped softly.

"Yes?" came a muffled voice from inside.

"Someone to see you, sir," called the guard.

"Just a moment."

The guard stepped to one side and stood at rigid attention. When the door opened and Captain Strong was revealed, Tom brushed past the guard and stepped into the room, talking quickly.

"My name is Hinkleworth, Captain," he announced. "I am here at the request of Commissioner Jessup to discuss the installation of new radar equipment on all Solar Guard rocket cruisers!"

Tom slammed the door closed behind him and turned to face the astonished Solar Guard officer.

"What in the star-blazing—?" Strong began angrily.

"It's me, Captain Strong!" Tom said quickly, pulling his hat off and lowering his collar.

"Corbett!" gasped Strong, taking an involuntary step back, his face mirroring his disbelief.

"Sh!" whispered the boy, motioning to the door. Recovering his composure, Strong swept past him, opened the door, and found the guard still standing there at attention.

"All right, Corporal," said Strong. "Resume your station."

"Yes, sir," replied the guard and walked down the hall. Strong watched him for a moment, then turned back into his room, closing and locking the door behind him. He faced the young cadet, who grinned back at him weakly.

"All right, spaceboy," said Strong, flopping in the nearest chair. "Start at the beginning and give it to me. *All of it!*"

Tom began his story with the incident of the runaway truck at Marsport, told of his abduction and escape from the two truckers, Cag and Monty, his efforts to reach Space Academy, and finally revealed the identity of the man he thought was responsible for the whole effort to stop the projectile operation.

At this, Strong jumped to his feet. "That's the most fantastic thing I've ever heard, Corbett!" he snapped. "What kind of proof do you have?"

"None, sir," replied Tom. "The only reason I came here tonight is to ask you to help me get that proof."

When Strong was silent, shaking his head, Tom tried again.

"Sir, you do believe me, don't you?" asked the boy with a sinking feeling in his heart. "What about all the things that have happened to me and to Roger and Astro?"

"I can explain them away just as easily as you can explain your theory," replied Strong. He walked over and patted the cadet on the shoulder sympathetically. "I'm sorry, Tom," he said gently. "Your story is just too fantastic and you haven't even the slightest shred of evidence. Just a few words an unreliable witness said under duress."

"I realize that, sir," replied the cadet. "But don't you see? This is the only way to clear my name."

Strong turned to the window, looked out thoughtfully for a moment, and then turned back to the boy. "How do you think I can help you?" he said, a more sympathetic note in his voice.

His eyes bright with hope again, Tom spoke quickly and eagerly. The Solar Guard captain calmly packed his pipe and lighted it, stopping the boy now and then to ask a question. Finally, when Tom was finished, Strong nodded and silently puffed at his pipe.

"Well, sir?" asked Tom eagerly.

"I don't know, Tom," replied Strong. "It's a pretty wild idea. And it leaves me way out on a limb."

"Only if we fail, sir," said Tom.

"Which is more than likely," Strong commented dryly.

"Captain Strong," said Tom, "if you really don't think it can work, then I suggest that you call the guard and turn me in. I've put you in enough trouble already." Tom moved to the door.

"Stop playing the hero, Corbett," said Strong. "I didn't say I wouldn't help you. But we have to think this thing out."

Tom sat down, eying Strong hopefully.

"Now, let me get this straight," said Strong. "First you want me to help Astro and Roger escape from the work gang. All right, that may work easily enough. But why?"

"So we can get aboard the projectile ship and go through her tests with her."

"I suppose you've heard that Connel, Professor Hemmingwell, and Dave Barret are going to take her up."

"Yes, sir," Tom replied, grinning. "That's why I want to go along. To make sure no more accidents happen."

"I could send a squad of Space Marines for that kind of job," mused Strong.

"But that would alert Barret," protested Tom. "He might not try anything. If he doesn't suspect he's being watched, we may be able to catch him in the act.

And he certainly wouldn't think the three of us are aboard."

"Hum. Maybe you're right," nodded Strong. "Then after I get you three on the ship, I'm supposed to spend my time trailing your prize suspect, right?"

"Yes, sir," nodded the young cadet.

"I'll have to give it consideration, Tom," said Strong after a momentary pause. "As much as I admire your plan and as much as I want to help you, this places me in a highly untenable position. Have you stopped to think what would happen to me if it were ever known that I had sheltered you here in my quarters and aided in the escape of two convicted cadets from the work gang?"

"Yes, sir," replied Tom soberly. "And—all I can say is I'll do whatever you think is best."

"Well, get some sleep now," sighed Strong. "I've got to make a tour of the guard."

Without another word, Tom went into Captain Strong's bedroom and fell asleep thirty seconds after his head hit the pillow. His last waking thought was that if his plan had any merit Captain Strong would help him.

Steve Strong did not leave his quarters immediately. He sat in the easy chair and puffed thoughtfully on his pipe until there was nothing left in the burnt and charred bowl. Then he rose and left the room to make his rounds. He walked slowly through the hollow, empty hallways of the Tower building, riding up and down the slidestairs, speaking curtly to the guards, and finally walked out on the wide steps facing the grassy quadrangle.

Strong glanced up at the sky. He counted the stars he could see and he remembered that as a boy of eight he knew the names and positions of every one. He recalled his entrance to the Academy as a cadet and how his unit instructor had guided him and taught him the many things a spaceman must know. He thought of his long tour as a line officer in the Solar Guard fleet under Commander Walters, then a major, and he remembered his brother officers, many of whom were now dead. There was one thing they all had in common, one thing that overshadowed all personal differences. One thing that was almost like a religion. Comradeship. A feeling of belonging, a knowledge that there was *always* someone who would believe in you and your ideas.

One thing. Friendship.

Captain Strong spun on his heel, walked back into the Tower, and rode the slidestairs back to his quarters. He had made up his mind.

CHAPTER 17

"*Stand by to raise ship!*"

Connel's bull-throated roar blasted through the intercom of the gleaming projectile ship from the power deck where Dave Barret was stationed, up to the radar bridge where Professor Hemmingwell waited anxiously.

On the main deck, seated at the controls, Connel spoke rapidly into the audioceiver microphone. "Projectile vessel to spaceport traffic control," he called. "Request blast-off clearance!"

"Spaceport traffic control to Connel," came a voice in reply over the audioceiver. "You are cleared. Your time is two minutes to zero!"

Connel began snapping the many levers and switches on the control panel in proper sequence, keeping a wary eye on the astral chronometer over his head as one of its red hands ticked off the seconds to blast-off.

The teleceiver screen to his right showed a view of the stern of the vessel and Connel could see some of the ground crew slowly rolling away the boarding equipment. Flipping on the switch that opened a circuit to an outside loud-speaker, he bellowed an order for the area to be cleared. The crew scurried back behind the blast deflectors and watched the ship through the thick crystal viewports.

"Power deck," Connel called into the intercom, "check in!"

"Power deck, aye!" reported Barret.

"Radar deck, check in!"

"Radar deck, aye!" Professor Hemmingwell acknowledged in a thin voice.

"Feed reactant!" Connel ordered.

"Reactant feeding at D-9 rate," said Barret after a split-second pause.

"Energize cooling pumps!"

"Cooling pumps, aye!"

"Cut in take-off gyros!"

"Gyros on," repeated Barret.

"All clear forward and up!" replied the elderly man.

"Right!" bawled Major Connel. "Stand by!"

Tensely he watched the red hand crawl up the face of the chronometer and he gripped the intercom microphone tightly. "Blast off," he began, "minus five, four, three, two, one, *zero*!"

Connel slammed home the master control switch and in an instant the silver ship trembled under a tremendous surge of power. Flame and smoke poured out of its exhaust and slowly it began to reach for sky, straining as if to break

invisible bonds holding it to Earth. Her jets shrieking torturously, the ship picked up speed and then suddenly, as though shot from a cannon, it blasted up through the atmosphere—spacebound.

A moment later, on the control deck of the ship, Major Connel swung forward in his chair, shook off the effects of the tremendous acceleration, and called into the intercom, "Switch on the gravity generators!"

As soon as the artificial gravity was in effect, the officer put the ship on standard cruising speed, changed course slightly to put them on a direct heading to Mars, and then ordered Barret and Hemmingwell to the control deck.

"Well, Professor," he said as he gave the old man a hearty handshake, "so far so good. She handles like a baby carriage. If the projectiles work half as well, you'll really have yourself something!"

Professor Hemmingwell smiled appreciatively and turned to Barret, who was just climbing through the hatch from the power deck. "You've done as much as anyone to help this ship get into space, Dave," he said. "Thank you!"

"Think nothing of it, Professor," replied Barret airily.

"Well, shall we begin the first series of tests?" asked Connel.

"By all means!" said the professor enthusiastically. "If you and Dave will check the firing stations, I'll take care of the paper work!"

"Right," replied Connel. "Let's go, Barret!"

"I'll work outside, Major," said Barret, turning toward the air lock. "You see that all the firing chambers are properly loaded."

"Anything you say, Barret."

The two men turned away from the smiling professor and left the control deck. They separated in the companionway, Connel hurrying to the starboard firing chambers and Barret going to the midships air lock where he put on a space suit for his task out on the hull.

In two minutes the young scientist was out on the odd-looking blisters that marked the exterior of the firing chambers ringing the hull.

At each blister Barret examined the hollow firing tube carefully. In several he made delicate adjustments to a small metallic ring extending from the opening of the tube. The ring was one of the most important parts of the firing unit, emitting the long-range electronic beam controlling the flight of the projectile.

Meanwhile, inside the ship, Connel checked the loading of each of the chambers, making certain that each of the ten-foot-long torpedolike projectiles was properly secured in its blasting cradle. After fifteen minutes and a complete trip around the ship, the major was satisfied that all was in readiness. He returned to the control deck, meeting Barret on the way, and they found Professor Hemmingwell just completing his calculations for the initial test. He turned to them, waving a paper in front of their eyes.

"Gentlemen," he said proudly, "we are almost ready. If you will adjust course fifteen degrees to port, we'll be in proper position for the test!"

"Right," nodded Connel. "Stand by below, Barret."

"On my way," replied Barret, disappearing through the hatch.

"Well, Professor," said Connel, walking to the controls, "this is the big moment!"

"Yes," nodded Hemmingwell. "If these rocket projectiles prove workable now, there's nothing to stop us from carrying on with our test of the ground receivers on Mars immediately."

"Power deck to control deck, check in!" Barret's voice suddenly crackled over the intercom.

"Control deck, aye," replied Connel. "Ready to blast?"

"All set!"

"Give me a ten-second burst on the starboard steering rockets," ordered Connel, gripping the steering vane control tightly.

"Coming up!"

There was a sudden, jolting blast from the stern and Connel and Hemmingwell hung on grimly as the mighty ship turned in space. Watching the control panel instruments carefully, Connel slammed home the switch that opened the powerful nose braking rockets and brought the ship to a dead stop in space.

"On course, Professor, ready to fire!" Connel announced triumphantly, and Hemmingwell took his station before the giant projectile control board.

"Stand by to fire one!" said the professor, making a minute adjustment on the panel. Behind him, Connel unconsciously crossed his fingers.

"Fire one!" shouted Hemmingwell.

Connel pressed a red button on the panel and waited, holding his breath. There was a distinct hissing and then the great ship lurched slightly. On the teleceiver overhead a white flash appeared, streaked across the screen, and then disappeared in the darkness of space.

"Fire two!"

Again there was a hissing sound and another white burst of light faded into the millions of other pinpoints of lights in the black void.

Over and over again, at one-minute intervals, the projectiles were fired, until all twelve of the firing chambers had discharged their fire-tailed missiles.

The professor sat back and smiled weakly at Connel. The gruff major winked encouragingly and they both turned to watch the teleceiver screen anxiously. The gyros on each projectile had been preset for a circular flight of fifteen minutes' duration. Soon they would be returning and the delicate job of bringing them safely aboard would begin.

"Here comes number one," shouted Connel, as a small pinpoint of light appeared on the screen.

"I'm ready!" said the professor. He watched the teleceiver screen carefully, made a minute adjustment of the dial controlling the directional beam emitted by the ring in the number-one firing chamber, and at the last possible moment, snapped the remote-control switch that cut the power in the approaching test

projectile. It hung dead in space, immediately over the chamber. Gently the professor increased the power of the electro-magnetic ring and pulled the projectile back into the chamber as easily as slipping a hand in a glove.

"Success!" Connel shouted. "Professor, you've done it!"

"Congratulations, sir," Dave Barret called over the intercom from the power deck.

"Here comes number two," said Professor Hemmingwell excitedly, and began to repeat the process to draw the approaching projectiles back into the ship.

One after another, five projectiles were taken aboard successfully. Then, as he worked on the sixth, the professor began to frown. He rechecked his instruments and then shook his head, obviously disturbed.

"What's the trouble?" growled Connel, noticing Hemmingwell's growing nervousness.

"The homing ring on number six tube isn't working properly," replied Hemmingwell. "I can't control the projectile."

"Any idea what's wrong?" the Solar Guard officer asked.

"The settings on the ring must be wrong." The professor picked up the intercom mike. "Dave," he called, "check in!"

"Yes, sir?" replied Barret immediately.

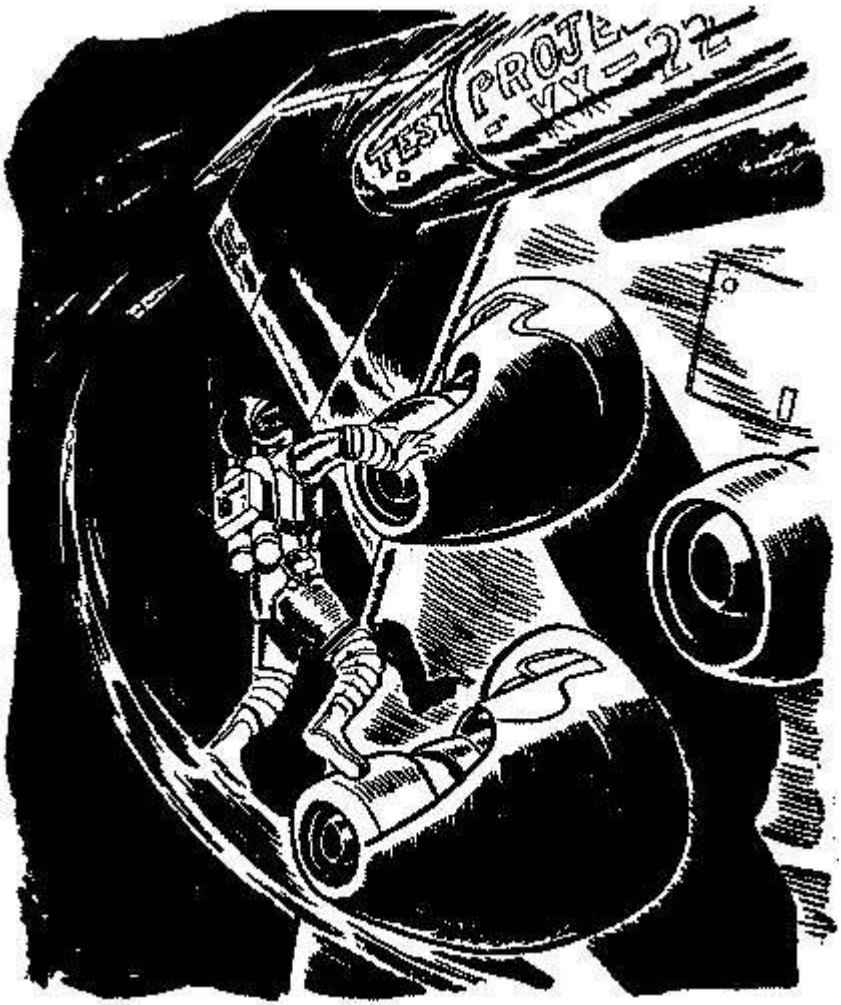
"Did you check the settings on all the rings in the firing chambers?"

"Yes, sir," reported Barret. "They looked O.K. to me. Why don't you check with Connel? He supervised their installation."

"That's true," said the major. "I'll go outside and look them over."

Connel turned on his heel and hurried to the air-lock chamber. Moving with amazing speed for a big man, he donned the space suit in the chamber while the pressure was being equalized. As soon as the air-lock portal opened, he scrambled out on the hull and made his way forward to the bulging firing chambers. Stooping over the empty tube of number six, he examined the ring carefully and began to frown. Moving on to number seven, his frown deepened. By the time he checked the rings of eight and nine, his face was a grim mask of anger.

"Professor," he called into his helmet microphone, "check in."



"Yes, Major," replied Hemmingwell from the control deck. "Have you found the trouble?"

"I sure have," Connel growled. "It's sabotage! And now I think I know who —"

Connel never finished. There was a sudden burst of power from the great ship and the officer was hurled into space.

"Major!" cried Hemmingwell. "Barret! What have you done? Connel is outside!"

"I couldn't help it, Professor," replied Barret from the power deck. "My hand slipped and—"

"Don't talk!" shouted Hemmingwell. "Stop the ship!"

"I can't! The control is jammed!"

As the ship surged through space and the professor and Barret yelled at

each other over the intercom, three Space Cadets rose from their hiding place in the hold of the ship.

Tom Corbett nudged Roger and Astro. "You hear that?" he said grimly.

"Yeah!" replied Roger.

"Let's go!" growled Astro.

Without another word, they opened the hatch and made their way quickly through the rocketing ship, each going to their separate stations, according to the prearranged plan. Roger climbed up to the radar bridge, Tom entered the control deck, and Astro burst into the power deck.

"You!" Barret cried out, his eyes wide with sudden fear as the huge Venusian advanced on him menacingly.

"Get away from those controls," growled the big cadet. "If you don't, so help me, I'll break you in two!"

Barret backed away, his face white, hands pawing the air frantically as if he were trying to push the big cadet back.

"Get over there," said Astro. "Sit down and keep your mouth shut!"

On the control deck, Tom was strapping himself into the pilot's chair and calling frantically into the intercom, "Give me a course, Roger!"

"One-seventy-degree turn to starboard," replied Roger, "and full ahead! I've got the major on my scanner."

"Pour on the power, Astro!" shouted Tom, gripping the controls firmly.

As the mighty ship blasted in a long, sweeping arc, Professor Hemmingwell sat numbly in his chair, aware only that the three cadets were taking the vessel back into the area where the remaining projectiles, completely out of control, were buzzing around in space like maddened hornets.

CHAPTER 18

"There he is!"

Roger's voice rose to a triumphant shout on the intercom. "Put the brakes on this wagon!"

"Check!" retorted Astro from the power deck, his fingers flying over the switches of the control panel and bringing the ship to a sudden blasting stop.

On the control deck, Tom turned to Professor Hemmingwell. "I'm going outside to get Major Connel, sir," he said. "Do you think you'll be all right?"

The old man nodded absently, still dazed by the sudden turn of events. Tom hurried past him and met Roger coming down from the radar bridge. "I'm going too!" the blond-haired cadet announced.

"You tell Astro?"

"Yeah. He's got Barret locked in the power-deck storeroom and he'll take over the control deck. Wonder if they have a jet boat aboard?"

"I doubt it. Not on a test flight."

"We'll have to hurry," said Roger as they reached the air lock and began to scramble into space suits.

"Yes," replied Tom. "He probably doesn't have much oxygen."

"There's another reason," grunted Roger.

"What?"

"Those projectiles. We're right back in the middle of them. Any one of them could wreck the ship."

"I see what you mean," said Tom. "Guess it's up to Astro to keep dodging them."

"Never thought I'd be out in space ducking hot projectiles to save old Blast-off Connel's hide."

"Neither did I," said Tom. "But here we are."

Stepping into the air lock, they quickly equalized the pressure and a moment later climbed out on the hull.

"See him, Roger?" asked Tom over the helmet intercom.

"Not yet," replied Roger.

"I see him," called Astro from the control deck. "I got him spotted on the teleceiver. Go aft, about a thousand, maybe fifteen hundred yards. I'll direct you from there."

"Right!" snapped Roger. "And listen, you Venusian bonehead! Make it good. I don't like being a clay pigeon for this crazy shooting gallery out here!"

"Aw, damp your tubes and get to work," drawled Astro. "Honestly, Tom,

did you ever hear him *not* complain?"

Tom did not answer. He was busy fastening two oxygen tanks to the front of his space suit and Roger's. When he had finished, he checked the pressure and, satisfied, nodded to his unit mate.

Opening the nozzles of the bottles, they shot away from the ship into the nothingness of space.

"You have to go about fifteen degrees to your starboard and five degrees up on the ecliptic," called Astro from the control deck. "You'll hit Connel right on the nose!"

"Right!" replied Tom, turning the nozzle of the oxygen bottle to the left and immediately shooting off in the indicated direction. Roger followed quickly and expertly.

"See him?" called Tom.

"No," replied Roger. "Are you sure, you big clunk?"

"He's right above you!" snorted Astro over the intercom. Then his voice rose in alarm. "No! That isn't—"

"Duck, Tom!" cried Roger.

Tom opened the nozzle of his oxygen bottle wide and turned it. As he shot away, a projectile roared through the area he had just left.

Roger had done the same thing, flipping over and shooting up and away from the moving object.

"Whew!" exclaimed Tom. "That was close!"

"You blockhead!" roared Roger. "What are you trying to do to us? Set us up for coffins?"

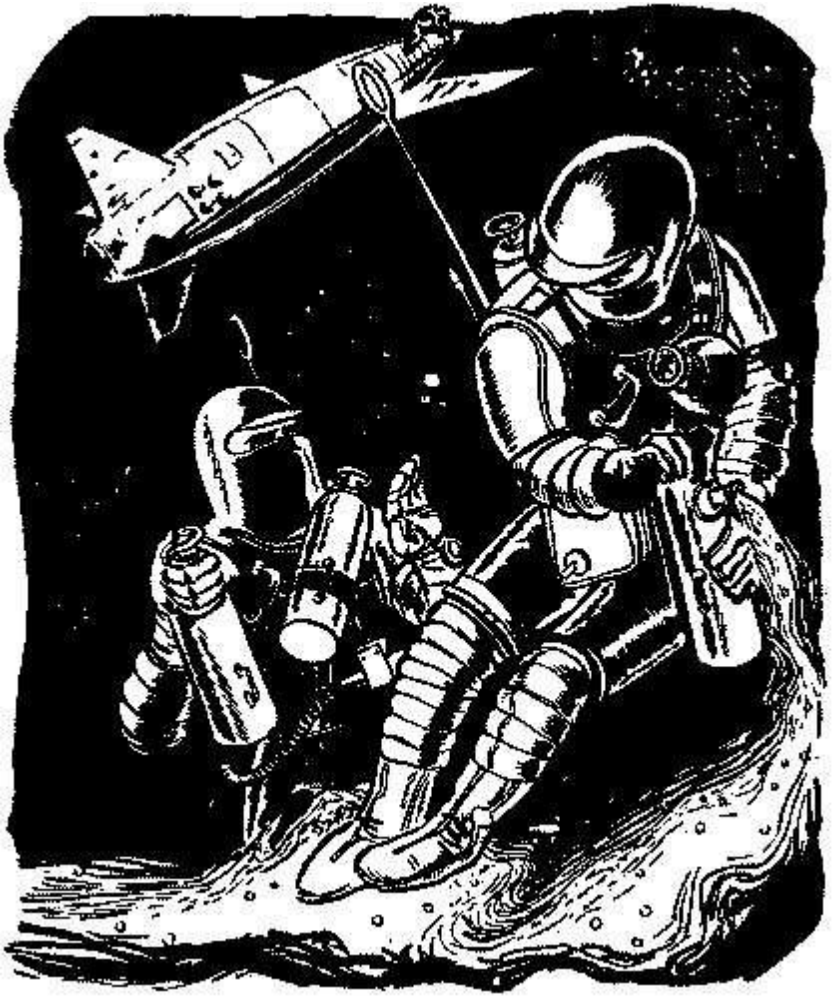
"For you, that's not a bad idea, Manning!" snorted Astro. "Just damp your tubes. I made a mistake."

"Some mistake!" growled Roger.

Tom and Roger maneuvered back together, and locking arms so they would not drift apart, scanned the void around them for Connel. Suddenly Tom jerked free. "Roger!" he cried.

"What is it?" replied the cadet. "Do you see him?"

"There!" Tom pointed back to the ship. "On the stern! He's hanging on to the cleat over the main tubes!"



"He's hanging on to the cleat over the main tube!"

"Astro," Roger called, "we're coming back in. We've spotted him."

"I heard you!" said Astro. "Must've come back on his own steam. Go get him, quick!"

Turning the nozzles of their oxygen tanks, the two cadets shot toward the ship. They quickly clambered onto the stern where Connel lay stretched out on the side of the hull, arms extended, his gloved hands gripping the small cleat on the side of the hull.

In a matter of minutes, the two boys had the Solar Guard officer safely

inside the air-lock chamber and had removed his space helmet and suit. His eyes were closed, and his face was deathly white. Tom immediately clapped an oxygen mask over his mouth and nose, while Roger applied heating units to the wrists and neck.

Astro burst into the chamber, followed by the professor. "Will he be all right?" Hemmingwell asked anxiously.

"Think nothing of it, Professor Hummingbird," said Roger. "The old major will come around any second, and when he does, stand back. The first thing he'll do is yell."

"Roger, the name is Hemmingwell," hissed Tom.

"Oh, yeah, sure," nodded Roger, and then turned to Astro. "Is Barret still locked up?"

"Yeah," replied the Venusian. "And I hid the key, so Connel can't get to him until he cools off."

"The major is coming around," said Tom.

As they watched, Connel stirred, coughed several times, and then opened his eyes. He stared in amazement at Tom, then turned to blink unbelievingly at Roger and Astro. "What in the star-blazing—?"

"It's us all right, sir!" Tom assured him.

"Yeah," chimed in Roger. "And you're not in heaven or—er—any place else either."

As Connel suddenly flushed with anger and sat up, Hemmingwell spoke quickly. "They saved your life, Major," he said.

"They did?" Connel's face clouded in confusion. "I don't understand. How did you three get aboard, anyway?"

"It's a long story, sir," said Tom. "Right now, maybe we'd better—"

Before the cadet could finish, there was a loud crashing and a series of jolting bumps as the ship lurched.

"What the blue blazes!" roared Connel, jumping to his feet in alarm.

"The projectiles!" exclaimed Roger. "We've got to get out of here!"

"By the craters of Luna!" cried Astro. "I forgot all about them!"

Tom, Roger, Astro, Hemmingwell, and Connel raced out of the air lock to their stations. Astro poured on the power without waiting for an order from the control deck and soon they were rocketing into the safety of space.

Watching the wildly flying missiles on the teleceiver screen, Connel breathed a sigh of relief.

"Wow!" he snorted. "Glad we're out of that mess."

"But what are we going to do about them, sir," asked Tom, a worried frown wrinkling his forehead as he watched the screen. "We can't just leave those things there. Some other ship may—"

"Don't worry about it," Connel broke in brusquely. "The projectiles will run out of fuel in a few minutes and they'll just drift. They can be fished out any time."

"We can go back and get them ourselves," said the young cadet eagerly.

"Roger and I can—"

"We've got more important things to do now!" thundered Connel. Switching on the intercom, he ordered Roger and Astro to report to the control deck. They appeared within seconds of his order and he faced the three cadets grimly.

"Well, boys," he asked, "what's the story?"

"I guess we'd better explain, sir," said Tom.

"I guess you'd better," nodded Connel.

Tom quickly ran over the chain of events, beginning with his abduction on Mars to their appearance on the ship, including the part Barret had played in tricking Roger and Astro into taking the scout. As he spoke, Connel looked more and more amazed, and when Tom finally uttered the name of the man he thought was responsible for all the sabotage, Connel jumped out of his chair.

"I can't believe it!" he exclaimed.

"You were nearly killed a few minutes ago, sir," said Tom. "And who sabotaged the rings? Barret! Who was around every time something happened? Who incited the crew to keep from taking this ship into space? Who spread the rumor that it was jinxed? The answer to every one of those questions, sir, is Barret. And Dave Barret is working for—"

"Let me at that sniveling space pup!" interrupted Connel, snarling his rage. "I'll tear him apart and throw him to the buzzards!"

The enraged major jumped to the hatch but Astro and Tom barred his way, with Roger stepping quickly in back of him, a heavy wrench in his hand, ready to assist in any manner necessary to subdue the howling officer.

"Try to kill me!" Connel howled. "Why, I'll—I'll—"

"No, Major!" shouted Tom. "He's the only one that can help us convict Carter Devers!"

Connel stopped. He stared at Astro's bulk and then turned to see Roger trying to hide the wrench. "Were you going to hit me with that thing, Manning?" he growled.

Roger gulped. "Yes, sir," he said. "If it was necessary to keep you away from Barret, sir. I'm sorry, sir."

Connel spun back to face Tom. "Corbett, you must have a plan," he said. "Let's have it quick."

Tom grinned. "All right, sir," he began. Suddenly, out of the corner of his eyes, he saw Professor Hemmingwell slump to the deck.

Hurriedly they picked up the old man and eased him gently to the nearby acceleration couch. After gulping some water that Roger poured for him, the old man smiled weakly. "I'm afraid I don't have the strength to withstand all this excitement," he said. "But now I understand why things were never easy for me. Carter Devers—he did this to me. He blocked the proposals every time that they were submitted to the Solar delegations. He—" Hemmingwell's head fell back. Roger had put a sedative into the water and the old man was now unconscious.

"It's just fatigue," said Connel. "He'll be all right in a little while." He turned to Tom. "All right, Corbett, carry on!"

Tom hurriedly concluded his story of the events leading up to their startling appearance on the ship, and as he spoke, he saw the major's frown change to a glowing grin. When Tom finished, Connel suddenly extended his hand in a gesture of friendship.

"I have to admit it, Corbett," he said. "You've done a good job. And," he added with a twinkle in his eye, "by going along with you, I am an accomplice with Captain Strong in the aiding of three fugitives from the Solar Guard."

Tom, Astro, and Roger grinned. "Now, let's get Barret up here and ask him a few questions," continued Connel. "And, Manning, if I can't restrain myself, you have my permission to hit me with that wrench! But so help me, if you belt me before the time comes, I'll bend that wrench over your skull!"

While Astro and Roger went below to get Barret, Connel and Tom reviewed their plan.

"Better keep the news quiet for a while," said Connel. "If we telecast it back to the Academy, Devers might get wise."

"Good idea, sir," acknowledged Tom.

"But I can't understand Devers' motive," said Connel. "What does he stand to gain if this project is a failure?"

"He'll lose plenty if it's a success," Tom asserted.

"Devers owns Jilolo Spaceways, the parent company of Universal Jet Trucking and Surface Transportation! If the projectiles worked, surface cargo delivery would be wiped out."

Before Connel could comment on Tom's startling revelation, they heard the sound of angry voices just outside the control-deck hatch.

"That must be Astro and Roger bringing in Barret," said Tom with a grin.

The hatch clanked open and Astro appeared, carrying Roger under one arm and Barret under the other. He dropped them both unceremoniously on the deck, but when they jumped to their feet, Roger charged forward quickly and landed a stinging right to Barret's jaw. The man dropped to the deck again like a stone.

"Manning!" roared Connel. "What was the idea?"

"I wanted to make sure I got in my licks before the Solar Guard got hold of him," replied Roger, rubbing his knuckles and looking down at Barret's inert form.

Astro grinned sheepishly. "I tried to stop him, sir!" he said.

"I'll just bet you tried to stop him!" bellowed Connel. "Cadet Manning, you put that man to sleep, now you wake him up!"

"Yes, sir!" said Roger, and while Connel, Astro, and Tom roared with laughter, he poured an entire bottle of water on Barret's face.

CHAPTER 19

"I don't know what you're talking about!"

Shouting angrily, Barret sat in one of the pilot's chairs, flanked by Roger and Astro, while Connel and Tom stood in front of him firing questions.

"Barret," said Connel, "I have enough evidence on you now to send you to a prison asteroid for ten years at least!"

"On what charge?" demanded the young man.

"Trying to kill an officer of the Solar Guard."

"Where is your proof?" demanded Barret.

"Right there!" snorted Major Connel, pointing to the sleeping figure of Professor Hemmingwell.

"What do you mean?" demanded Barret.

"He'll swear that you deliberately sent this ship into full drive while I was out on the hull checking the rings."

"He can't," protested Barret. "He was on the bridge! He couldn't have seen a thing!"

Tom shook his head gently. "Barret, after what you've done to his ship and the projectile operation," he said, "Hemmingwell will swear to anything."

"It's a frame-up!" shouted Barret.

"And what do you think you did to us?" snarled Roger.

Barret flushed and turned away. "You can't scare me," he muttered. "Go ahead. Let him swear to whatever he wants."

Connel stepped back grimly and turned to Astro and Roger. "All right, boys," he said. "Take him below and see if you can't get some different answers out of him." The hardened spaceman turned his back and walked to the viewport.

"Why, you dirty space rat!" screamed Barret. "You wouldn't dare!"

"Oh, wouldn't he!" retorted Roger. "Listen, pal, he figures we owe you plenty for what you did to us, and he's just giving us a chance to pay you back!" He faced Barret grimly. "Mister, you're going to get the works! Come on, Astro!"

As the giant Venusian advanced on Barret, the man shrank back in his chair, eyes widening in sudden fear. When Astro stretched out his huge hand and grabbed him by the front of his jacket, he screamed in fright.

"All right, all right!" he cried out. "I'll talk! Devers did it! He made me do it! He's responsible for the whole thing!"

"Turn on that audiograph, Corbett!" shouted Connel.

Tom snapped on the machine and brought the microphone over to Barret, holding it in front of his trembling mouth.

"All right, talk!" Connel growled. "And tell it all."

Barret had hardly uttered the first stumbling words when Roger let out a shout of alarm. "Hey! The scanner!" he cried.

They all turned to the teleceiver screen. To their horror, they saw a menacing shape blasting toward them. They recognized it instantly—a space torpedo!

Astro dove through the power-deck hatch while Roger raced for the radar-bridge ladder. Tom hurled himself into the copilot's chair, and with Connel beside him in the command position, he waited for Astro to supply power. Suddenly the ship trembled violently and then shot forward as, far below, the jet exhausts screamed under the full thrust of all the atomic reactors. Tom rode the controls hard and kept his eye on the scanner screen.

"It's a magnetic gyrofish!" he cried as he saw the torpedo curve after them. "Roger, can you plot her for me?"

"Working on it now, Tom!" yelled Roger over the intercom.

"How in blazes did that thing get out here?" muttered Connel.

"We'll have to worry about that later, I'm afraid, sir," replied Tom. "We're going to have our hands full getting away from her. With that magnetic warhead, she'll follow us all over space unless we can throw her off."

"Which will take some doing!" grunted Connel, frowning in deep concern.

"Hey, Tom!" Roger's voice called over the intercom. "It's blasting on maximum thrust now. We have a pretty good chance. Use that idea we worked out. Make a series of left turns and always on the up-plane of the ecliptic!"

"Right!" said Tom, clutching the master manual-control lever and beginning to fly the giant ship through space by "feel."

"What in blazes are you doing, Corbett?" shouted Connel in sudden alarm.

"Just hang on and watch, sir," replied Tom, keeping his eyes on the scanner where he could see the space torpedo trailing them. Over and over, Tom kept slamming the ship into sharp left turns, while the torpedo followed in an ever-narrowing circle.

"All right, Tom!" yelled Roger again. "Give it the same thing on the right and the down-plane of the ecliptic!"

"Check!" answered Tom, reversing his controls and sending the ship corkscrewing through space on an opposite course.

Connel grabbed the arms of his chair and gasped, "You kids are space happy!"

"Those gyros are so perfect, sir," said Tom, working the controls quickly and smoothly, "that the only way you can throw them off balance is to confuse them."

"Confuse them!" exclaimed Connel.

"Yes, sir," said Tom. "It's a theory Roger and I worked out together. No

gyro is perfect, and if you can get it bouncing back and forth in extreme turns, it will be thrown out of balance. Then all we have to do is make the torpedo miss once and it won't come back."

"Heaven help us all!" was Connel's groaning reply.

"On the ball, Tom!" cried Roger. "She's closing in on us!"

"I see her," replied Tom calmly. "Hang on, everybody. I'm going to turn this ship inside out!"

Jerking the controls, Tom threw the ship into a mad, whirling spin, subjecting the vessel to the most severe strain tests it would ever undergo. The hull groaned and creaked, and badly fitted equipment tore loose and clattered across the deck. Suddenly the young cadet leveled the ship.

"Nose braking rockets, Astro!" he called.

"Braking rockets, aye!" acknowledged the Venusian over the intercom.

On the power deck, Astro jammed the forward drive closed and slammed open the nose rockets. The ship trembled, bucked, and finally came to a shuddering stop before it started a reverse course, accelerating quickly.

"Here it comes!" yelled Roger.

As Connel and Tom watched tensely, the space torpedo loomed large and menacing on the scanner, and then, as they held their breaths, it whistled past the silvery hull of the ship, with less than two feet to spare!

Sighing deeply, Tom brought the ship back to level flight. "We're O.K. now, sir," he said. "Her gyros are out. She won't come back."

"By the craters of Luna!" Connel suddenly exploded. "The Solar Guard spends a fortune to develop a foolproof space torpedo and two hot-shot cadets come along and get away from the blasted thing! Why haven't you told this to anyone before?"

"Why—er—" stammered Tom, "we've never had the chance to prove it, sir."

Behind them, the power-deck hatch suddenly opened and Astro stepped in. "Nice work, Tom!" he called.

"And as for you, you Venusian ape," roared Connel, "don't you realize that you can blow a reactor tube by throwing so much power into a ship without energizing the cooling pumps first?"

Astro smiled. "Not if you open the by-pass, sir," he said, "and feed directly off the pump reservoir. The gas cools the tube and at the same time expands itself and adds to the power thrust."

At Astro's easy reply Connel could only stand openmouthed in amazement. Again, one of the three cadets of the *Polaris* unit had developed a revolutionary procedure that even top rocket scientists would be proud to call their own.

Winking at Tom, Astro turned away and suddenly noticed Barret sprawled on the deck, unconscious.

"What happened to him?" asked the big Venusian.

"Oh, I forgot all about him," said Tom. "Guess he didn't get into an

acceleration chair in time. Better get some more water."

"We haven't time for him now!" snapped Connel. "Strap him in good and tight. We've got to find out where that torpedo came from."

As though in answer to the major's order, there was a sudden call over the ship's intercom.

"Radar bridge to control deck, check in!" There was a note of alarm in Roger's voice.

Tom jumped to the control panel to reply.

"Control deck, aye!" he snapped into the microphone.

"There's a spaceship to starboard!" called Roger. "Distance twenty miles, fifteen degrees up on the plane of the ecliptic. And I swear she's maneuvering to fire another torpedo!"

"Stand by action stations!" roared Connel, diving into his chair before the control panel. Tom strapped in next to him, while Astro made a headlong dash for the power deck.

"Yes!" shouted Roger. "She's fired a torpedo!"

"Raise her! Raise her!" bellowed Connel. "Tell them who we are!" He turned to Tom. "Go into your act, Corbett," he said, "and make it good!"

As Tom manipulated the controls again, the silver ship plunged through space, turning and gyrating in the same series of maneuvers it had performed to escape the first torpedo. But this time the distance separating them was not as great and the torpedo closed in quickly.

"Can't you raise that ship yet, Manning?" Connel roared into the intercom.

"I just have, sir," replied Roger in a strained voice. "But it's—"

"Let me talk to that lame brain of a skipper," interrupted Connel. "By the stars, I'll teach him to—"

"It's no use, Connel," said a gruff voice over the control-deck loud-speaker. "Even if you duck this torpedo, I've got ten more!"

"Who is this?" roared Connel.

"Don't you know, Connel? Why, I'm surprised!"

The teleceiver screen glowed into life and Tom and Connel stared in horror as they recognized the images of three men. The one in the foreground smiled mockingly and said, "Remember me, Connel?"

"Devers!" Connel roared.

"And the other two behind him—" stuttered Tom. "Cag and Monty!"

"Why, you dirty space crawler," cried Connel, "I'll get you if it's the last thing I do!"

"No, you won't, Major." Devers laughed. "The last thing you'll do is kiss a space torpedo. Then no more Major Blast-off Connel, no more whimpering Professor Hemmingwell, and most important, no more projectile ship!"

And as Devers laughed loudly, Tom threw the ship into another violent turn and cried, "It's no use, Major. I can't duck this one!"

"All hands brace for torpedo!" warned Connel.

Suddenly there was an explosion aft. The ship lurched and shuddered violently, spinning through space, and as Tom fought the controls, everything went black. The ship drifted helplessly, out of control.

CHAPTER 20

"Turn on the lights! Cut in the emergency batteries!"

Connel's bull-throated roar carried through the ship as he stood on the power deck with Astro and shouted to Tom on the control deck. The space torpedo had destroyed the stern of the vessel, and if it hadn't been for Astro's quick action in sealing off the aftersection of the ship, all the air might have been lost and the crew dead of suffocation.

A moment later the emergency lights glowed weakly and Connel and the big Venusian cadet began a quick inspection of the ship. The power deck was a total loss. The ship would never get under way again.

Up on the radar bridge, Roger was about to turn on the radar scanner when Tom appeared and stopped him.

"Wait a while, Roger," he said. "We may need the power for something else."

"What, for instance?" snorted Roger.

"That ship is still out there, probably closing in for the kill."

"A blasted lot we can do about it," Roger growled.

"I've got a plan that might work," said Tom half-heartedly. "It's about the only thing I can think of, unless Connel and Astro have a better idea."

"What is it? Whatever it is, it's better than sitting here like a dead duck, waiting for that rat to come in and finish us off!" said Roger. "Look, I've just got to see what he's doing out there." He flipped on the scanner switch and while he waited for the set to warm up he turned back to Tom. "What's your idea?"

"Well," began Tom, "the only thing we've got on board that we can use to fight back with are those projectiles."

"How can we fight with projectiles?" demanded Roger. "They don't carry warheads!"

"No," agreed Tom. "But they're big and heavy. They pack a wallop if they hit anything."

Roger's eyes brightened suddenly. "Say, I think—"

The scanner began to beep and Roger turned his attention to the screen. Tom leaned over his shoulder and watched eagerly. They both saw Devers' ship flying in a slow circle around them.

"Probably looking to see which would be the best way to let us have it!" snarled Roger.

At that moment Major Connel climbed into the radar bridge, followed by

Astro.

"Time to go," announced the officer.

"Go where?" demanded Roger.

"We have to abandon ship," declared Connel. "The power deck is shot. We'll never get under way, and we're just sitting ducks if we stay aboard."

"What's to prevent Devers from picking us off while we're outside?" asked Roger.

"Nothing," said Connel. "But he'll have a harder job and maybe he won't get all of us."

"Then, sir," said Tom with a glance at Roger, "I have an idea."

"Let's have it," said Connel.

"The projectiles, sir," replied Tom.

"What about them?"

"We can still fire them off the emergency batteries, sir."

"Will you get to the point, Corbett?" growled Connel. "Devers is liable to send another torpedo our way any second and—" Connel suddenly stopped and his eyes widened. "A torpedo!" he gasped.

"Exactly, sir!" exclaimed Tom. "We have five projectiles! We can use them as torpedoes!"

"Jumping Jupiter!" exclaimed Astro. "What a terrific idea!"

"What a terrific pipe dream!" snapped Connel. "Those projectiles don't have any warheads!"

"They could still do a lot of damage if they hit that ship," asserted Tom.

"And how do you expect to aim them?" demanded Connel. "There's not enough juice in the batteries to steer them!"

"We'll just fire them straight ahead, sir," broke in Roger. "Look!" he continued, pointing to the scanner screen. "Devers' ship is just circling us now. And he's on the same plane of the ecliptic. If he holds that course—"

"He'll cross our bow!" exclaimed Astro excitedly. "A perfect shot!"

"Ridiculous!" shouted Connel. "Preposterous! It'll never work in a million light years! He'll fire another torpedo and we'll be blasted into space dust!"

"But we can try it, can't we, sir?" asked Tom, grinning.

"Of course we can!" roared Connel. "I've never given up a battle yet and, by the stars, I'm not going to now!"

Forgetting rank and protocol, the three cadets danced around the major, slapping him on the back and howling their enthusiasm. Connel could not restrain a momentary grin and then his features assumed his usual bulldog look.

"Knock it off!" he shouted. "We've got work to do. Manning!"

"Yes, sir?"

"Keep your eyes nailed to that scanner!" Connel bellowed. "Sing out if Devers changes course by so much as a hair!"

"Aye, aye, sir!"

"Astro!"

"Sir?"

"Put space suits on Professor Hemmingwell and Barret and stand by with them on the control deck."

"Aye, aye, sir!"

"Corbett, you and I will check the projectiles. Make sure they're in firing order!"

Spinning on his heel, Connel left the radar bridge. Alone for just an instant, the three cadets of the *Polaris* unit clasped hands in silent determination and then plunged into their various assignments.

Five minutes later, Connel and Tom returned to the control deck to find Astro waiting for them. Professor Hemmingwell and Barret, both in space suits, were seated on acceleration couches. As Connel walked up to him, Hemmingwell raised his head slowly, still under the effects of the sedative.

"What's—what's happening, Major?" he asked haltingly.

"Professor," said Connel, "one of two things is going to happen. Either your ship will be blown to space dust or Carter Devers will be finished and we'll bring your ship back to Earth!"

"Good, good," murmured Hemmingwell.

"And as for you, Barret"—Connel turned toward the man angrily—"now you can see what kind of thanks you get for your dirty work! Your boss is just as willing to get rid of you as he is to destroy this project!"

Barret flushed under Connel's glare and turned away.

At the control panel, Tom opened the circuits to the five loaded firing chambers and then turned to Connel. "All set to fire, sir!" he called.

"Any word from Manning?" asked Connel.

"Not while I've been here," replied Astro.

Connel picked up the intercom microphone. "Hello, Manning!" he shouted. "What's the story?"

"Coming up to the last chapter," replied Roger over the intercom. "Devers is holding course. Should cross our bow in two minutes!"

"Good," replied Connel. "Keep us posted!"

Replacing the microphone, he turned to Tom. "Stupid fool!" he snorted. "He should've fired another torpedo and wiped us out. What's the matter with him?" Connel abhorred stupidity, even in an adversary.

"Maybe he thinks we've already had it," suggested Astro. "With our stern blasted away, he might figure all the air's gone out of the ship."

"Let's hope he keeps on figuring that way," said Connel. "Everything ready to fire, Corbett?"

"All set, sir," the young cadet replied. "I've hooked up all circuits to this button." He pointed to a button on the control panel. "We'll blast in salvo."

"Oh, we will, will we?" exclaimed Connel.

"If you think it's advisable," Tom amended hurriedly.

"Of course it's advisable!" snorted Connel. "We're almost aiming blind as it is. A salvo will give us a bigger spread. Besides," he added, "with a whole

barrel of luck, we might hit him with two of the projectiles. That would really do some damage."

"I'd like just a little potful of luck," murmured Astro, "and be able to land one."

"Heads up, down there!" Roger's voice suddenly sang out on the intercom.

"Devers crossing our bow yet?" asked Tom.

"He's still holding course," said Roger. "But he's training his number one starboard tube this way. He's going to blast us again!"

"How long do we have to wait for that bow shot?" demanded Connel.

"Another forty-five seconds at least!" came Roger's reply.

"Blast it!" muttered Connel. "Plenty of time for him to fire."

Barret suddenly rose from his acceleration couch, screaming, "You can't keep me here! Let me go!"

Astro grabbed him quickly and threw him back down. "Stay put," he growled.

"No," cried Barret, frantic with fear. "It's murder! Let me go!"

"Relax and enjoy it, Barret," snorted Connel. "It's your boss who's doing it!"

"What about Professor Hemmingwell, sir?" asked Tom. "Shouldn't we—?"

"No," Hemmingwell spoke up from his daze. "I want to stay with my ship."

"Hey!" Roger cried over the intercom. "We're getting company!"

"Company?" exclaimed Tom. "What're you talking about?"

"A Solar Guard cruiser," replied Roger. "Coming up to port. About five hundred miles away. Hey! It's the *Polaris*!"

"It must be Captain Strong!" shouted Tom.

"He won't do us much good now," muttered Connel. "How much time do we have, Roger?"

"Get set down there. Only another ten seconds and Devers will be right on our bow."

"On the ball, Tom!" ordered Connel.

"Ready, sir."

The seconds ticked by slowly. One—two—three—four—Beads of sweat appeared on Connel's brow. Astro clenched and unclenched his fists. Hemmingwell closed his eyes calmly and waited. Barret slumped back in his couch, almost paralyzed with fear.

"Coming up, Tom!" cried Roger.

Tom didn't reply. He kept his fingers poised on the firing button. And the seconds ticked off slowly, maddeningly. Seven—eight—nine—!

"They've fired," Roger shouted. "Point-blank! We're going to get it!"

"Fire, Tom!" shouted Connel.

Even as Connel spoke, Tom's finger pressed down hard on the firing button. The ship quivered as five projectiles blasted from the firing chambers and winged their deadly way through space. The control room of the ship was silent, everyone waiting for the impact of the torpedo and praying that

somehow, someway, they could know whether their own attack had succeeded even if they lost their own lives in the attempt to destroy Devers' ship.

There was a sudden, blasting roar and a brilliant white flash of light filled the cabin. The deck heaved violently, then dropped sickeningly. Under the force of the explosion, everyone was thrown to the deck and lay deathly still.

* * * * *

In the wardroom of the rocket cruiser *Polaris*, Captain Strong, Major Connel, Professor Hemmingwell, and Roger and Astro were sipping tea and calmly discussing the events of the past hour.

"Your ship wasn't too badly damaged, Professor," said Strong. "We'll take her in tow and bring her back to Space Academy. She'll be good as new."

"I'm afraid you'll have to do without the services of Dave Barret though, sir," commented Connel dryly. "He's got a previous engagement on a prison asteroid and it's going to take him a long time."

"I can do very well without him," said Hemmingwell. "As a matter of fact, I would have done extremely well without him before." He paused and shook his head. "I feel so ashamed of myself when I think of the things I said to those boys." He nodded toward Astro and Roger. "And all the time they were right."

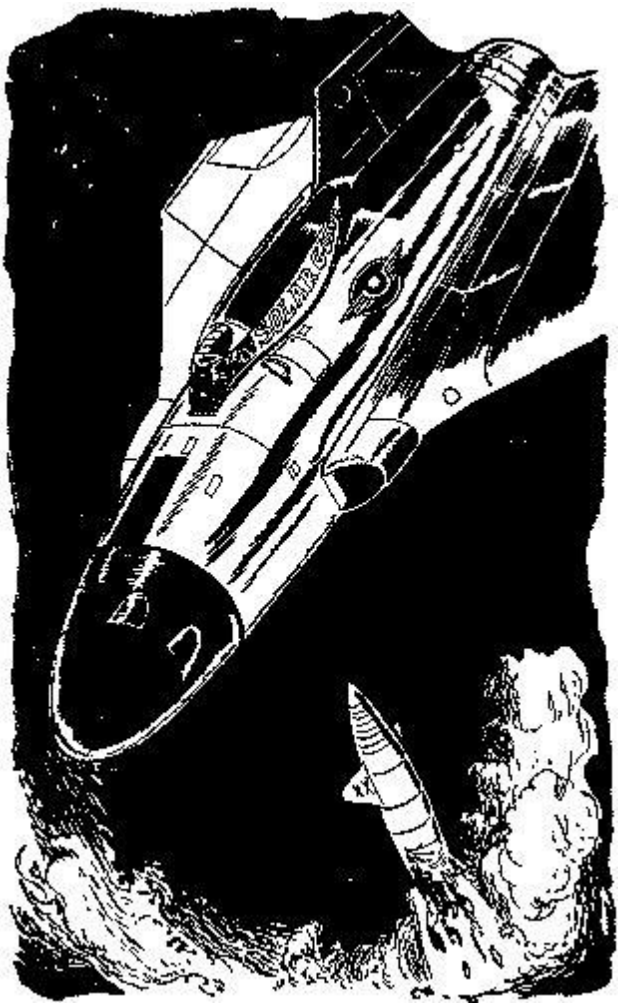
Astro grinned shyly. Roger was about to open his mouth and make a typically flip remark when the hatch opened and Tom appeared, a bandage covering his head. The two cadets jumped toward him and snowed him under with affectionate slaps on the back.

"Wait a minute!" cried Tom. "I'm injured. Look at my head!"

"You couldn't have hit the control panel with anything better!" snorted Connel.

"But what happened?" asked Tom.

"Two of the projectiles hit Devers' ship," said Roger. "One of them on the power deck. Must've smashed the reaction tanks and made the stuff wildcat, because it blew him into rocket dust!"



"The projectiles blew Devers' ship into rocket dust!"

"But his torpedo! He fired at the same time!" said Tom.

"This unit is the luckiest in the universe," said Roger proudly. "One of the other projectiles smacked the torpedo and exploded the warhead. We were bounced around by the shock wave but that's all!"

"Well, I'll be a Martian mouse," sighed Tom. "Then everything is O.K. now?"

"So far as you three are concerned, it's perfect," said Strong. "Barret has spilled everything. You're cleared of all charges!"

"What about Pat Troy?" asked Tom.

"He's in the clear, too," said Strong. "You may remember that he refused to tell us who he was working for besides Professor Hemmingwell and that made us suspicious of him. Well, we found out, when he regained consciousness a short time ago, that he is a security agent for the Solar Alliance Council. He had been assigned to work with the professor and to help protect him. Barret has admitted that he tried to murder Troy."

"Humph!" snorted Connel, suddenly rising.

The room was intensely quiet and Tom, Astro, and Roger felt that there was something coming. Strong could hardly suppress a grin as Connel took a paper from his tunic.

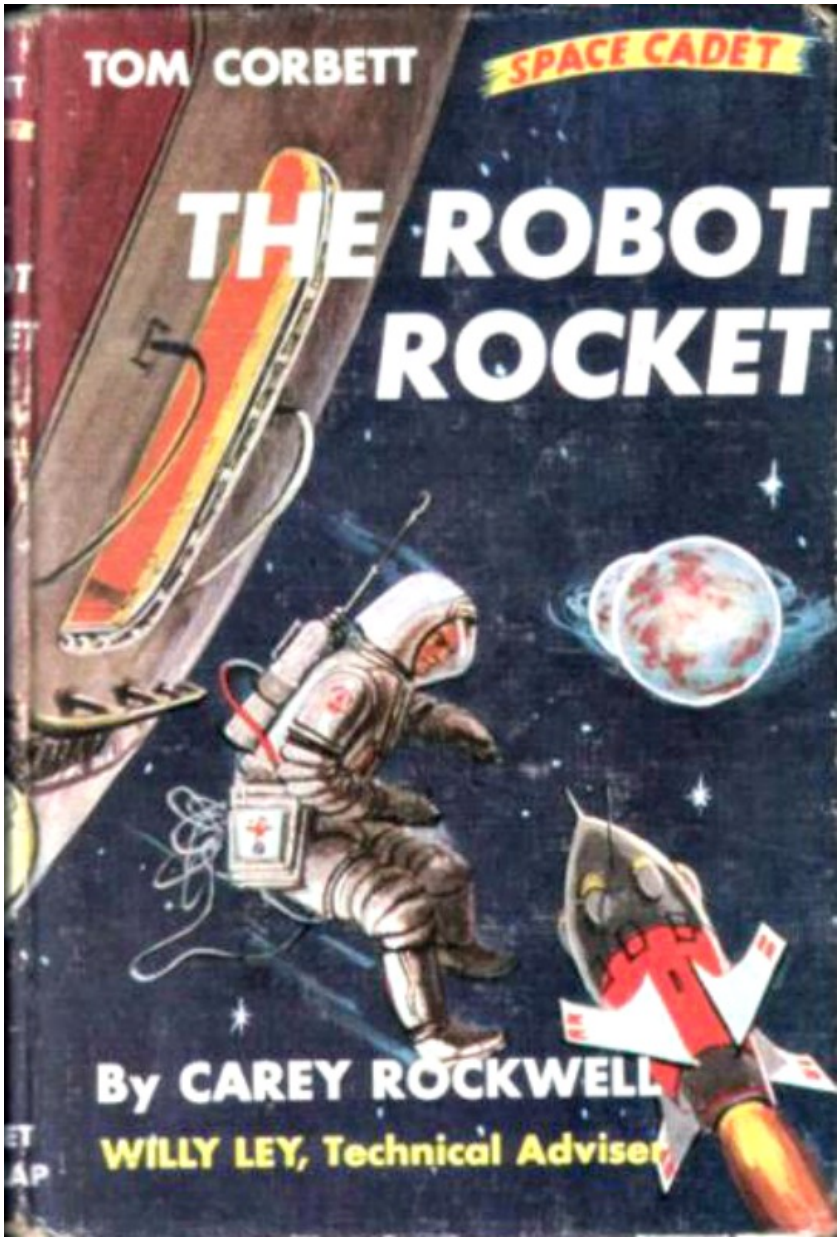
"This message was received just fifteen minutes ago," he said. "It reads, quote, Major Connel, Solar Guard. With reference to Operation Space Projectile, information has come to us that the Space Cadet unit, known as the *Polaris* unit, has contributed in an outstanding and extraordinary way to the successful completion of this highly valuable project. As Senior Line Officer of the Academy, it is hereby requested that you bestow upon this unit some form of expression of the gratitude of this Council for their remarkable and inspired behavior in the face of relentless odds. Signed, Secretary General, Solar Council, Venusport, Venus. Fourteenth of June, 2354, end quote."

Connel slipped the paper inside his tunic and faced the three cadets.

"All right, you heard it!" he growled. "And you deserve it. You have three weeks' leave. But when you come back," he added, "watch out!"

"Oh, for the life of a Space Cadet!" said Tom, grinning at his unit mates. "It's wonderful!"

THE END


TOM CORBETT
SPACE CADET
THE ROBOT ROCKET
By CAREY ROCKWELL
WILLY LEY, Technical Adviser

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A TOM CORBETT Space Cadet Adventure

WILLY LEY Technical Adviser

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CHAPTER 1

"Hey, Fellas!"

Space Cadet Roger Manning raced down the hall of the dormitory building at Space Academy, U.S.A., pursuing his two unit mates of the *Polaris* crew.

"What's up, Roger?" asked Tom Corbett, the curly-haired command cadet of the unit.

"Yeah, hot-shot," growled Astro, the giant Venusian power jockey, "what are you fusing your tubes about?"

The blond astrogator stopped beside them. "We don't have to worry about fixing up the dormitory room for Captain Strong's party," he announced proudly.

"We don't?" asked Tom, throwing a puzzled glance at Astro. "Why not?"

"Because," replied Roger idly, brushing his nails on his blue Senior Cadet tunic, "I have just made a deal with the *Capella* unit for their Earthworms to do it for us."

"A deal?" asked Tom. "What kind of deal?"

"I don't like this," growled Astro. "Any time Manning gets involved in a deal, I always end up on the losing end! All right, Manning, let's have it."

"It's simple, my Venusian bird-brained friend," Roger explained. "Tony Richards wanted to borrow my celestial tables-the ones I sent to New Chicago for-that cost me forty-three credits-"

"So?" asked Tom suspiciously.

"His Earthworm cadets are loaded with demerits," Roger continued. "So I lent Tony my tables and he lent me his cadets. We can sit around this afternoon while they do our work for us."

"And what is all this going to cost us?" asked the burly Venusian.

"Wait a minute, Astro." Tom stepped between the two cadets. "I don't think that's right, Roger. This is our party for Captain Strong."

"I know it. So what?" demanded Roger.

"I don't think it's right to have someone else come in and do all the work."

"I agree," Astro added. "This is a surprise party to celebrate Captain Strong's fifteenth anniversary in the Solar Guard. We're throwing it because we like him. He means something special to us. So we should be happy to set it up all by ourselves."

"Now wait a minute!" exclaimed Roger. "I like Captain Strong as much as you do-but this is *work!"*

Tom suppressed a smile. He knew full well his unit mate's reluctance to do anything that involved physical exertion.

"If you don't want to help," he said, winking at Astro, "you don't have to."

"I didn't say I wouldn't help," Roger protested. "I just thought you guys would appreciate what I was doing for you. After all, you reap the benefits too."

"Thanks, Roger," said Tom dryly. "But I'll just go ahead as we planned."

"But I already lent Tony the book of tables!" Roger wailed.

"That's too bad, Manning." Astro laughed. "I feel sorry for you. I really do. I could almost fall down on my little hands and knees and cry."

At that moment three boys in the green uniforms of the first-year cadets appeared at the far end of the hall and marched with precision toward Tom, Roger, and Astro.

"Here come the Earthworms now," whispered Tom. "Better send them back, Roger."

"Not before I have some fun with them," replied the blond-haired cadet. "I'm going to get something out of this deal!"

"Nothing doing, Roger," said Tom, taking him by the shoulder and turning him away. "The *Capella* unit gives them enough rocket wash without you putting in your two cents."

"Yeah, come on, Roger. We have work to do," said Astro, grasping his unit mate by the front of his tunic. As easily as if he were lifting a bag of feathers, he hoisted Roger into the air and swung him into their dormitory room.

The three cadets came to a stop before Tom and snapped to attention. "Earthworms Monte, Coffin, and Mooney of the *Capella* unit reporting to Cadet Corbett as ordered, sir."

"At ease," Tom replied. "Take off. Roger decided he wouldn't need you after all."

"You mean it, Tom?" asked Monte incredulously. "You're not kidding us, are you?"

Tom shook his head. "No, this is official. Take off with Roger's blessings."

Without another word, the three Earthworms turned and raced down the corridor. Tom grinned and slowly stepped toward the dormitory room. He was greeted by the sound of Roger's outraged protests.

"Lemme go! Put me down, you excuse for humanity!"

Tom sighed and shook his head. Separating Astro and Roger in their endless quarrels had irritated him in the beginning of their association. But through the long months of their school life, he had

become resigned to it and now accepted it with a weary indifference. When he entered the room, he was not surprised to find Roger on top of the lockers, a good ten feet off the floor. Astro stood below him, legs apart, hands on hips, grinning triumphantly.

"Take him down, Astro," Tom said with a sigh. "We've got work to do."

Obediently Astro reached up and hauled Roger down, setting him on his feet easily. Roger spun around angrily, ready to resume the fight, but Tom stepped in front of him quickly.

"Save it, Roger. Put that energy into getting these bunks moved around. I'll start stringing up the colored paper."

Roger growled and Astro grinned, but both of them went to work with vigor. Out of the corner of his eye, Tom watched them working together and felt a surge of pride. It wasn't every unit in the Academy that could boast having the best power-deck cadet and the best astrogator cadet. While he himself was happy to be the pilot and command cadet of the unit, he realized that without their solid support his efforts wouldn't be nearly as successful as they had been.

Soon the room was crisscrossed with strips of gaily colored paper, and the furniture had been rearranged to make space for the table they were borrowing from the messroom. Then, while Astro was getting the table and Roger went for the ice cream, fruit juices, and a special cake brought all the way from Atom City by special messenger, Tom stripped a sheet from one of the beds for a tablecloth and dug out the forks and cups hoarded for days in anticipation of this event.

With nothing more to do until Astro returned with the table, Tom moved to the window and stared down on his favorite scene-the grassy, brilliant green quadrangle that was the hub, the center of the Academy. All around it the magnificent buildings of pure, clear Titan crystal picked up the rays of the afternoon sun and reflected them in many colors on the slidewalks that crisscrossed the campus, carrying the hundreds of cadets to all parts of the Academy. His glance wandered over to the greatest sight at Space Academy, the

Tower of Galileo, and his eyes clouded with sudden emotion. To him, the magnificent tower was the symbol of this year, 2356, the age of the conquest of space. Now, after centuries of life on earth, men had broken the chains binding them to the mother planet. There were outposts of spacemen on the satellites of Alpha Centauri, and the colonies on Ganymede and Titan rivaled the largest cities of Earth, Venus, and Mars, the three planets of the Solar Alliance.

The Tower was also a personal symbol to Tom. It represented a whole new life. The day that he first saw it, he changed from a carefree boy with no responsibilities to a serious young man, destined to become one of the few who would shape men's future in space.

Tom smiled as he remembered his first days and weeks at Space Academy and the efforts to adjust to his unit mates, Roger and Astro. It had been rough. Although a brilliant boy, Roger had at first insisted on independence. He was a lone wolf and had resisted the unit system of training at the Academy. Astro, on the other hand, while the most ingenious power jockey in space, having cut his teeth on reactors of spaceships in the merchant fleet as an enlisted spaceman, was unable to grasp theoretical knowledge. More than once, Tom had seen him absolutely confounded when a problem on atomic motors was presented as a question on an examination paper. And yet Astro could take those same motors apart and put them together again blindfolded.

The greatest problem in those first weeks was learning to work together as a unit. Captain Steve Strong, their unit commander, had recognized their potentialities and had worked with them, driving them, threatening them, consoling them, until now they were considered the finest unit in the Academy. That was the reason for the celebration. Captain Strong would be passing his fifteen years as Solar Guard officer today, and he, more than any other single factor, had been responsible for the success of the *Polaris* unit. The party was small, but the gratitude and the deep feeling of respect behind it great.

"Take a look at this cake!" yelled Roger, entering the room laden with packages and boxes. The cake was white, with a

miniature spaceship on top, and the inscription read: "Congratulations ... 15 Years . . . Tom, Roger, Astro."

Astro burst in a moment later carrying the table. "Hurry up!" he hissed. "I just saw Captain Strong coming up the slidestairs!"

They quickly spread the cloth and placed the plates, cups, and forks.

Astro's eyes bulged at the sight of the cake. "Take your eyes off that, Astro," said Roger. "It's for Captain Strong."

"But he can't eat it all!" said Astro happily.

"Shh!" said Tom. "Here he comes!"

They heard footsteps on the corridor floor outside, and the door opened. Steve Strong, resplendent in his black-and-gold Solar Guard officer's uniform, stepped into the room.

"CONGRATULATIONS!" the cadets roared in unison as Strong stopped in obvious surprise. He could hardly fight back the mist in his eyes at the sight of the table and the decorations.

"Thank you," he said quietly, with feeling. "It's the nicest surprise I've ever had."

"Let's eat!" yelled Astro, notorious for his gargantuan appetite.

Tom and Roger had been touched by the emotion displayed by Strong, but Astro's emphatic and direct approach made them laugh.

"What's so funny?" growled the young giant. "That stuff's here to eat, not to look at."

"Just a minute," said Strong. He stepped aside and for the first time the three cadets saw that there was a fifth person in the room. "I want to introduce you to Cadet T. J. Thistle of Mars Academy. He will be attached to your unit for a while as an exchange cadet. We plan to send a cadet to Mars in his place."

The three boys stared at the new cadet. He was as small as

Astro was big. Slim, and about five-two, he looked more like a prep school student than a full-fledged Senior Space Cadet.

The *Polaris* unit greeted him soberly. They resented having an outsider at their party, but since Captain Strong had brought him, there wasn't anything they could do about it.

"Glad to have you aboard, Thistle," said Tom, stepping forward to shake hands.

The small cadet returned the handclasp lightly and then looked around the room. "Well, a party!" he chirped in a high-pitched voice. "I can't think of a better way to get to know you guys!"

Roger and Astro shook hands and looked him over carefully.

"Thistle is a radar, astrogation, and communications wizard," said Strong. "He was the best they had at Mars."

The word *wizard* exploded in the air like a small atom bomb. Astro and Tom glanced at each other and winced. They knew what was coming. It was a challenge Roger Manning would not let pass without an argument. Already his eyes were dancing with delight.

"Well, a wizard, eh?" asked Roger, stepping right up to Thistle and towering over him. "I never met a wizard before," he added caustically.

"Oh, no?" replied Thistle innocently. "Well, then, let me be the first one introduced to you. T. J. Thistle, at your service!" He looked at Captain Strong. "Shall we eat, sir?"

As Manning's face suddenly reddened, Tom and Astro turned away quickly to hide their smiles. Roger Manning had apparently met his match.

CHAPTER 2

"Boy! Is Roger burned up!"

Tom laughed as he carried his space bag to the door of the dormitory room. The *Polaris* unit had been ordered out on a routine patrol, with T. J. Thistle along as an observer.

"Never have I seen him so dead set on showing anyone up," Tom continued. "You know what he's going to do on that patrol today?"

"What?" asked Astro as he finished packing his space bag.

Tom grinned. "He's going to ask Thistle to take over the radar bridge," Tom said. "He's going to instruct him-get that, *instruct* him-on the finer points of astrogation."

His bag closed, Astro turned and looked at Tom. "So?"

"Don't you get it? As soon as Thistle makes a wrong move, Roger will be all over him."

Astro nodded. "From some of the remarks Thistle made at the party yesterday, this is going to be the battle of the century," he said. "Do me a favor and leave the intercom key open so I can hear everything."

The cadets picked up their bags and strolled toward the slidestairs. "We're to meet Roger and Thistle at the spaceport," Tom announced as they stepped on the moving duraplast stairway that would take them down to the main level of the dormitory building.

"What are the orders?" asked Astro.

"I haven't picked them up yet," Tom replied. "We'll get them at traffic control, but it's just routine. Out to the asteroid belt and back," Tom added over his shoulder."

"Routine?" Astro grinned. "I can remember the day when a trip out to the asteroid belt was like a deep-space hop."

Tom nodded. "You can say that again, spaceman."

On the main level they waited in line before the sergeant-at-arms desk to sign out. Chief Warrant Officer Mike McKenny sat behind the desk like a well-fed, satisfied bulldog. But no cadet in the Academy was ever fooled by his seemingly complacent appearance. Spaceman McKenny had the reputation of being as harsh as any unit commander. When Tom and Astro stopped before him, McKenny grinned. "Well, the *Polaris* unit has a Martian visitor, I hear," he said in his familiar foghorn voice.

"Yes, we have, Mike," Tom replied. "And from the looks of him, he's going to give Manning a hard time on the radar bridge."

"From what I hear," drawled a voice in back of them, "Thistle is the hottest astrogator to hit the Academy in the last twenty years!"

As one, Tom and Astro spun around to challenge the attack on Roger. They came face to face with Tony Richards, the command cadet of the *Capella* crew, consistent rivals for Academy honors.

"I'll bet six desserts," said Astro, glancing at Richards, "that Manning can astrogate rings around that Martian monkey."

"Still sticking together, eh?" commented the *Capella* cadet. "You'd think that there wasn't another crew in the Academy but you."

Astro grinned and pointed to the trophy case at the other side of the huge lobby, where most of the trophies for inter-unit athletic competition bore the name *Polaris.* "There's your answer," the burly cadet said. "I still bet six desserts, and on top of that I'm giving two-to-one odds."

"I'll take that!" retorted Richards. "Two-to-one!"

"But that doesn't include Sunday's dessert," Astro quickly amended. *"Not* the ice cream and pie."

Tom laughed and tugged at Astro's arm. "Come on," he said.

"We've got to hit the blue!"

With a parting wave to Tony Richards, they left the dormitory building and jumped on the slidewalk, rolling smoothly past the door. Wide belts of plastic that moved on underground rollers, the slidewalks crisscrossed the Academy, whisking cadets and officers silently and efficiently to all parts of the huge installation. The moving walks were crowded with spacemen dressed in the various colored uniforms of the Solar Guard; the red of the enlisted Solar Guard, black and gold of the Solar Guard officers, green of the Earthworm cadets, and the deep blue of the Senior Cadets. Shifting to an express walk at a junction point, Tom and Astro were being carried along toward the Academy spaceport at a fast clip, when Tom finally turned to Astro and broke the silence. "Feels good, doesn't it?" he said.

"What does?" asked Astro.

"Being a Space Cadet about to blast off."

Astro grinned. "It sure does," he said. "Better than anything I can think of."

In a few minutes the two cadets were at the Academy spaceport, the largest landing field for spaceships in the entire Solar Alliance. Set in a low valley, surrounded by rolling hills, the spaceport was not only the main base for the fleet of rocket cruisers and space scouts used by the cadets in their training hops, but had a special section devoted to commercial traffic. Tom and Astro hurried through the busy administration area to the control tower where air traffic was handled. While Astro waited outside, Tom signed the log and then went to get their orders.

The office of the traffic dispatcher was high above the field and afforded a view of the whole spaceport. Tom automatically searched out the gleaming hull of the *Polaris* when he entered and did not notice Captain Strong standing at the desk.

Captain Strong winked at the dispatch officer who stepped up to Tom. "Can I help you, Cadet?" he asked.

Tom came to attention and saluted. "Cadet Corbett, *Polaris* unit, requesting flight orders, sir," he said briskly, and then suddenly noticing Strong, flushed and grinned sheepishly. "Sorry, sir," he added.

"That's all right, Corbett," Strong replied. "The sight of a spaceship is always distracting." The Solar Guard captain held out a sheaf of papers. "I already have the orders," he continued. "I'm going to make this hop with you."

"Swell, sir," said Tom. But the question in his eyes was plain.

Strong smiled. "I was just telling Captain Smathers here about the space storm that seems to be brewing between Thistle and Manning," he said. "I think I'd better come along."

"Glad to have you aboard, sir," Tom said.

"Let's go!"

Outside the control office, Tom and Captain Strong joined Astro and got into a jet car. Shooting across the concrete surface of the spaceport at a speed that made Astro turn pale, they reached the air lock of the *Polaris* and climbed into it.

"We blast off in ten minutes, Tom," Strong said. "Order all stations to stand by."

"Aye, aye, sir," Tom replied.

Leaving Astro on the power deck and Strong in the officer's cabin, Tom scampered up the final ladder to the control deck and immediately began preparations for blast-off. Switching on the intercom, he cried: "Control deck to radar bridge! Check in, Roger!"

"Radar bridge, aye," came an unfamiliar voice over the loud-speaker. "Manning is not here. This is Thistle."

"Where is Manning?" asked Tom, puzzled.

"He-er-"

"Yeow!" An earsplitting yell suddenly crackled over the communicator and echoed through the ship. Tom leaped to his feet and scrambled up the radar-bridge ladder. He burst through the hatch and into the astrogator's compartment barely ahead of Captain Strong and Astro, who had also come running when they heard the agonized cry. They all stood aghast at the sight before them. Thistle was standing to one side, an innocent grin on his face, watching Roger hop around the deck, scratching, wriggling, and squirming in a seemingly uncontrollable frenzy. Tom glanced at Strong, who bellowed at the top of his voice: "Stand to!"

Thistle snapped to attention immediately, but Roger was unable to stand still.

"What's the meaning of this?" demanded Strong.

"That creep!" gasped Roger, scratching his chest, then his arm, then his leg in rapid succession. "That Martian monkey. He-he . . ." Roger stopped and began stripping off his tunic. "He put ants in my astrogation chair!"

"Ants!" Strong turned to Thistle. "Is that true, Cadet Thistle?" he growled.

"Well, no, sir. Not exactly," replied the little cadet innocently.

"Then what exactly *did* you do?" demanded Strong.

By now, Roger had stripped down to his shorts and was picking the ants from his body and his clothes. Tom and Astro could hardly repress their laughter as they helped him.

"I've been making a study of the structure of the society of ants, sir," announced Thistle with complete composure. "When I learned we were going out to the asteroid belt, I figured I would have a lot of spare time and could do a little research. Manning accidentally overturned the jar and-" He stopped and shrugged.

"I'll turn you over, you little space grub!" Roger cried.

"Stow that gaff!" roared Strong, and then turned back to the little cadet, frowning. "Thistle, you should know better than to bring

insects aboard a spaceship!"

"But, sir," protested Thistle, his face still a mask of innocence. "I thought I could-"

"I don't care what you think!" snapped Strong. "The space code says, and I quote: 'No spaceman, at any time, under any conditions whatsoever, shall bring aboard, or have brought aboard, or precipitate the bringing aboard of any animal life of any size or nature without the express permission of the commanding officer of that vessel,' unquote."

"Yes, sir. I know," Thistle replied, with a glance at Roger who was still digging the ants from the seams of his tunic. "But an insect isn't an animal, is it, sir?" he asked blandly.

"That's enough!" Strong roared.

"Yes, sir! Sorry, sir!"

By that time Tom had finished spraying the deck with a small insect bomb, and Astro was helping Roger back into his uniform.

"Don't let anything like this happen again," Strong said sharply, then he checked his watch. "All hands to stations," he announced. "Stand by to raise ship."

"Could you wait a minute until I get squared away, sir?" asked Roger, struggling into his trousers.

"No time, Roger. We have our blast-off time and orbit scheduled. Thistle will raise ship."

As Thistle whistled lightly and turned his attention to the huge astrogation panel, Roger's face clouded over and he continued dressing silently.

Tom, Astro, and Strong trooped off the bridge without another word. But when they reached the control deck, they burst into laughter.

"I won't say that Thistle let those ants loose on purpose"-Astro

chuckled-"but he's way ahead so far."

Tom grinned in agreement. "I just hope this practical joking doesn't go too far," he said.

"It had better not," Strong said firmly. "Fun is fun, but out in space, where the slightest mistake can cost a man's life, it ceases to be funny. Take your stations!"

"Aye, aye, sir!" Tom replied.

As Astro hurried below to the power deck, and Strong strapped into an acceleration chair, Tom took his place at the control panel and began the routine of adjusting the dozens of dials and switches in preparation for blast-off. He flipped on the intercom and called: "Control deck to all stations, check in!"

"Power deck, aye!" Astro's voice crackled over the intercom. "Ready for blast-off."

"Radar bridge, aye!" replied Thistle. "Ready to raise ship!"

Tom turned his attention to the astral chronometer and watched the sweeping red second hand move around the face of the clock. When it touched thirty, he called again: "Energize the cooling pumps!"

On the power deck below, Astro threw the switch that started the mighty pumps and a faint whine could be heard throughout the whole ship.

"Cooling pumps in operation!" Astro announced over the intercom.

"Your orbit and course set, Thistle?" asked Tom.

"Yeah, it's set!" growled Roger in reply.

Tom grinned. "Feed reactant!" he called.

Another sound, heavier and deeper pitched, blended with the whine of the pumps. "Reactant feeding at D-9 rate!" Astro shouted.

The huge ship began to tremble under the tremendous pressure of the pumps and feeders. Tom's eyes were glued to the astral chronometer.

"Stand by to raise ship!" he called. "Blast off minus five, four, three, two, one-zero!"

He slammed home the main circuit switch. The ship trembled violently for a few seconds and then slowly rose from the face of the earth. It began picking up speed, accelerating at better than seven miles per minute, hurtling spaceward into the new frontiers of mankind, the ever-expanding universe!

CHAPTER 3

"Asteroid belt dead ahead!"

Tom Corbett's voice rang over the spaceship's intercom. "Cut power to one-quarter thrust!" he ordered as he slammed the master control lever home. Then, putting the giant ship on automatic pilot, he picked up the intercom again. "Corbett to Captain Strong!" he called. "We've arrived, sir. Any special orders?"

"What's your position?" Strong asked.

"Quadrant seven, chart B, sector seventeen," said the young cadet.

"Assemble the crew on the double," ordered Strong. "I'll be right up."

After summoning his unit mates, Tom paused and stared out of the viewport into the weird-looking spacescape of small, medium, and giant-sized pieces of space junk that made up the asteroid belt.

The asteroid belt lay between Mars and Jupiter and could have been, as many believed, another planet that had been broken into billions of smaller planetoids by the terrible power of nearby Jupiter's gravity. The belt, circling endlessly around the sun, was a constant danger to spaceships in transit between Europa and Ganymede, satellites of Jupiter, and also was the birthplace of the meteors that showered on Earth, Mars, and Luna.

Captain Strong and the three cadets arrived on the control deck simultaneously. Strong wasted no time with preliminaries. He faced them and pointed to the asteroid belt clearly seen through the viewport. "There's a maverick planetoid acting up in this sector. Something has happened to its atomic structure and the planetoid has changed its nature from a positive-or attracting magnetism-to a negative or repelling magnetism. It's been drifting in an irregular orbit for about two weeks now, bumping into other asteroids, which in turn are wandering into the space lanes and endangering space

traffic. Our job is to find the maverick and blast it out of existence."

Strong walked to the electronic astrogation chart blinking on the afterbulkhead. "Reports from three space freighters have placed the maverick in this general area here," he continued, pointing it out on the chart. "So Thistle and Roger will take jet boat number one, and Tom and Astro number two, and begin a wide search sweep. I'll stay on board the *Polaris* and plot your reports. Any questions?"

"Yes, sir," said Tom. "Is the maverick planetoid very large?"

"About a thousand yards in diameter," replied Strong.

"How will we get rid of it?" asked Astro.

"We'll use it for a little target practice," Strong answered with a grin. "I don't think you'll mind taking pot shots at it with the six-inch atomic blasters, will you?"

"Mind!" yowled Roger. "All I want is first crack at it."

"Why first?" asked Thistle innocently.

"Because Astro and Tom are better than I am," said Roger slyly but keeping a straight face. "I just want to make sure that I get at least one shot at it."

"Better than you!" gasped Astro. "Well, I'll be a Martian monkey! Since when have you ever thought that anyone else could be better than you in anything?"

Strong interrupted before Roger could answer. "Suppose you find it before you argue that point? Get moving!"

The four cadets saluted briskly and trooped out of the control deck. On the way down to the boat deck, Thistle eyed Roger curiously. While waiting in the air lock for Astro and Tom to blast off, he turned to the blond-haired cadet. "I want to apologize, Roger," he said, offering his hand, "about the ants, I mean."

"Forget it!" replied Roger matter-of-factly, shaking Thistle's hand. "A practical joke is-well-" He paused and shrugged. "It could

happen to anybody."

"That's what I thought," muttered Thistle under his breath.

"What did you say?"

"I said that's a nice sportsmanlike thought," replied Thistle casually. "Come on. Tom and Astro are ready to blast off."

Thistle walked up to the hatch and stared through the small viewport, hiding a smile. Being a practical joker himself, he could smell the possibility of one a mile off.

The two cadets remained in the air lock, just off the boat deck, while Astro and Tom completed their warm-up, and then sent the sleek little jet boat rocketing out of the open hatch.

When the outer hatch had closed again and air pressure had been equalized, Thistle entered the boat deck and climbed into their boat.

"I'll pilot," announced Roger.

"O.K.," replied Thistle casually.

"Ready?"

"All set."

Almost in one movement, Roger tripped the switch that opened the outer hatch and jammed the acceleration lever home, sending the jet boat shooting out of the *Polaris* under full throttle. Thistle was slammed back into his seat.

"What's the matter?" asked Roger innocently. "Too fast for you?"

"Oh, no, not at all," Thistle gulped.

Roger maneuvered the small craft with ease as they worked their way into the thick part of the asteroid belt. With Thistle checking out the search areas and relaying the information back to

Strong over the audioceiver, Roger concentrated on avoiding the tiny silent world orbiting all around him.

They finished searching through three sectors and Thistle had begun to relax, thinking that perhaps he had been wrong about Roger, when they began to press further into the dense mass of asteroids. Roger bent over the controls, gripping the acceleration lever tensely, turning, rising, dropping, avoiding the space junk that would seemingly appear out of nowhere. A master of handling small craft, Roger began increasing the speed of the jet boat, sweeping in and around the circling bodies, sometimes coming within inches of colliding with them.

Beads of sweat popped out on Thistle's forehead. He choked and gulped, realizing that Roger was retaliating for the ant episode, but he would not admit to being afraid.

"I love to handle a jet boat in tight quarters," Roger said casually. "It's good practice for the reflexes."

"Yeah," Thistle gulped as they narrowly missed smashing into a huge, jagged asteroid as big as the *Polaris.* "Yeah, it can be fun sometimes."

Roger reached over and flipped open the audioceiver key, and then looked at Thistle. "Well, what do you know? The key jammed," he said. "We can't close the circuit now!"

Strong's voice filled the tiny cabin of the ship. "Anything wrong, Roger?"

"The circuit key of the audioceiver is jammed open, sir," answered Roger, grinning at Thistle.

"See anything yet?" asked Strong.

"Nothing, sir," said Roger.

"Keep searching," ordered Strong.

"Aye, aye, sir," said Roger, and pressed the acceleration lever all the way over.

The tiny craft leaped forward through the thick mass of asteroids. It was all Roger could do to keep the tiny craft from crashing. Thistle started to protest, then kept silent, staring at the open key. He knew that every word he said would be heard by Strong, Tom, and Astro. He was sure that Roger had arranged for the key to be jammed in some way. But he was determined not to say a word.

"We're moving into sector nine," Tom's voice was heard over the audioceiver as he reported back to Strong.

Thistle looked at his chart. They were in sector nine themselves. Avoiding asteroids was one thing, but to have another jet boat maneuvering around near them was something else.

"Don't you think you better slow down a bit, Roger?" asked Thistle in a hurried whisper.

"What did you say, Thistle?" bellowed Roger. "Did you say you wanted to slow down?"

Thistle's face turned red. "Yeah," he said grudgingly. "Slow down."

"Well," said Roger with a casual air, "if you're afraid of a little space junk, sure, I'll slow down."

"What's the trouble?" inquired Captain Strong.

"Nothing, sir," said Roger with a hint of triumph in his voice. "It seems that our Martian radar wizard is scared of a little speed!"

"How fast are you going, Manning?" demanded Strong. "If you're pulling one of your gags-"

"Roger, look out!" Thistle suddenly yelled, pointing through the viewport.

Dead ahead was a giant planetoid. Roger swerved in time, but then found himself heading straight for the other jet boat!

"Pull up, Roger! Pull up!" Astro's voice blasted over the

audioceiver.

Roger pulled back on the control stick. It would not move. He grabbed the acceleration lever and reversed his rockets in a desperate attempt to brake their speed, but it was useless. The two jet boats were hurtling straight at each other.

At the last minute Tom's boat swerved, narrowly missing them, but even as Roger breathed a sigh of relief, Thistle grabbed him by the arm and spun him around to look through the rear viewport. Roger's face whitened in sudden horror. Tom and Astro had piled into the huge asteroid.

Strong's voice roared over the audioceiver demanding to know what the trouble was. Thistle stammered out a reply as Roger slammed his tiny ship into a tight turn and headed back to the other jet boat, now drifting around in silent orbit just above the surface of the planetoid.

"Tom! Tom!" Roger shouted frantically into the intercom. "Can you hear me?"

"Yes," came Tom's weak reply. "We're O.K., but we're leaking oxygen. And we don't have space suits."

"I'll come alongside and take you off!" Roger called.

"No, Manning!" interrupted Strong on the audioceiver. "You've got to bring the boat back to the *Polaris.* If you open the hatch, you'll kill Astro and Corbett!"

"But there's no way of getting a line or grappling hook on it, sir," said Roger. "You'll have to bring the *Polaris* in here!"

"Impossible!" replied Strong. "I couldn't find you. The radar scanner is useless. Every piece of space junk around you shows up as a blip. I can't tell which one is your ship!"

"We can 'con' you in here!" said Roger determinedly. "Just follow our orders."

"Your orders!" gasped Strong. Then, realizing that Roger was

under extreme pressure and was unaware of his breach of military courtesy, he replied:

"Very well, Manning. I'm on a course of zero-zero seven degrees, eighteen on the upgrade of the ecliptic. What are my orders?"

"What's the quadrant, Thistle?" asked Roger.

"Sector nine, chart C," replied the little cadet quickly, then pausing, his eyes closed, his lips moving rapidly, he suddenly called into the intercom: "Change your course three degrees starboard, one downgrade, and proceed for about ten thousand yards. Check?" He glanced inquiringly at Roger, who had been doing the same thing: plotting a complicated astrogation problem in his head.

"Right!" nodded Roger.

"I'm under way," announced Strong. "Three starboard, one down, ten thousand!"

Standing off the crippled jet boat, watching Tom and Astro work frantically to plug leaks in their vacuumized cabin, T. J. Thistle and Roger Manning charted the progress of the *Polaris* in their minds. Without a single instrument and relying on nothing but their memory of the astrogation tables, the inborn sense of direction that made both of them outstanding astrogators, they maneuvered the huge rocket cruiser through the mass of space junk.

"Now drop three degrees on the ecliptic," Thistle called into the intercom. "Move ahead about four hundred yards, sir, and you'll be right over the other jet boat."

A moment later T.J. and Manning sighed with relief as Tom's voice roared over the loud-speaker:

"The *Polaris* is right over us!"

Even as Thistle and Roger turned to look, Captain Strong had dropped grappling lines with electromagnetic heads and had picked up the disabled jet boat to haul it safely aboard the cruiser.

Roger and Thistle blasted in after them. Once the outer hatch had been closed and the pressure of the boat deck brought up to normal, Strong rushed out of the air deck to meet them.

"This," exploded Strong, "is the most fantastic thing I've ever been through in my entire life!"

"It has to be fantastic if Manning is involved in it," said Tom with a good-natured grin at Roger. "Thanks, spaceman, for pulling me out of that one."

"Same here, Roger," said Astro.

"I don't want any credit," said Roger, unusually serious. "And I mean it. I take my hat off to the greatest astrogator in space, T. J. Thistle." He turned and offered his hand to the small cadet.

The little cadet shook his head. "You know, I heard about Roger Manning on Mars," he said. "Every time my instructor wanted to emphasize a point he would explain how Manning had done it. I thought it was a lot of space gas. But, spaceman, this guy is the greatest brain I've ever met!" He turned and grasped Roger's hand firmly.

"Now that the mutual admiration society has been called to order, do you think we could spend a little time looking for the maverick asteroid?" asked Strong with a grin.

"Yes, sir," said Tom. And then, with Astro and Strong, he turned to watch Roger Manning and T. J. Thistle walk off the boat with their arms around each other's shoulders. One important problem seemed to have been solved.

CHAPTER 4

"I'm sorry, Steve, but the *Polaris* unit has to be broken up."

Commander Walters stood behind his desk and looked sympathetically at the young Solar Guard officer who had brought the *Polaris* crew through the toughest academic course in the Solar Alliance, turning green Earthworms to seasoned cadets.

"Commander," said Strong, his face white, "I would like to write a formal protest to this decision."

"You have my permission," said Walters. "In fact, I would not have expected anything less than a rousing argument from you over this decision. But I, Major Connel, and a majority of the Board of Regents for the Academy consider it a wise move."

"But you're breaking up the finest unit the Academy has ever had, sir," protested Strong.

"Sit down, Steve. I want you to understand that this action was not taken on the spur of the moment."

"I believe that, sir."

"We have only one thought in mind," continued the grizzled commander of Space Academy, "the constant improvement in teaching methods. Never forget, Steve, that Major Connel's replacement, my successor in years to come, and future members of the Solar Alliance Council will be drawn from men who are cadets today. We have to make sure that the leaders of the future are the very best we can turn out for the tough job that lies ahead. We haven't even begun to touch the frontiers of outer space. We've only scratched the surface of what this universe holds for us. We have to make sure that the society we're building now will be in the hands of imaginative men trained for the job of leadership, and with an understanding of what the word *progress* means."

Strong sat slumped in the heavy chair. He could hardly find the

courage to look at his superior officer. He knew that what Walters was saying was true. Even his short span of fifteen years as an officer in the Solar Guard and as a Space Cadet had been designed to make him a suitable part of the future of the Solar Alliance.

"It's not going to be easy to fit another cadet into that unit, sir," Strong said slowly.

"I know that," said Walters heavily. "But that's a problem I'm handing you."

Strong looked up quickly. "Me!"

Walters nodded gravely. "You, Steve," he said, and then lifted his hand quickly. "Now before you get on your rockets and start blasting-"

"Blasting!" roared Strong, forgetting for a moment that he was addressing his superior officer. "Commander Walters, if you remember, you took me off your staff and made me unit instructor to the *Polaris* cadets because you thought they would make the finest unit the Academy has ever had."

"And you have made them into the finest," said Walters.

"Then why not let them remain a unit!" snapped Strong.

"Careful, Steve," said Walters. "I explained my reasons."

"Reasons!" exclaimed Strong. "Those three cadets think as much alike as any three human beings I have ever met in my life. If you take one of them out of the unit it would be like cutting off an arm- or a leg-or in this case, since Roger is the astrogator, putting out its eye!"

When Walters failed to reply, Strong edged forward in his chair and began to plead earnestly. "Sir, individually, Tom, Roger, and Astro are perhaps the finest cadets we have had-and as a team, well, there just isn't any telling how much they can accomplish. But what will happen if you break up this team?"

Walters stirred restlessly under Strong's earnest stare, but the

young officer continued.

"Have you considered the possibility that if you break up this unit by taking one cadet away you might lose all three? Those boys don't just have reactant fuel running through their veins! They have blood and feelings and emotions. I hesitate to say that they would quit the Cadet Corps, because the thought frightens me. But, sir, that is what your action can precipitate. You are taking the gamble of losing all three. There isn't a commercial space line in operation now that wouldn't hire them on the spot! At ten times the money they could ever hope to make as Solar Guard officers!"

"That's enough, Steve!" rasped Walters. "The decision stands. It is only in consideration of the attachment you have for these cadets that I have allowed you to speak your mind so freely and openly, but there comes a time when objective decisions and opinions have to be considered over personal feelings. And no one knows that better than you do."

"Very well, sir," said Strong, rising and coming to attention. "Then I hereby ask to be relieved of duty as instructor of the *Polaris* unit. I request assignment to line of duty."

Walters frowned. "Permission denied!" he barked, "You are the finest officer we have for this job and it would be senseless to assign anyone else."

"I may resign from the service, sir," said Strong coldly.

"Don't threaten me, Steve!"

"Do I have permission to leave, sir?" asked Strong tightly.

"Not until you give me your word that you will behave and act as an officer in the Solar Guard should act and behave."

"The commander cannot dictate my feelings."

"Your feelings are not important!" snapped Walters. "The only thing important here is the progress of the Solar Alliance!"

"Yes, sir."

"You will," said Walters, his voice heavy with authority, "go to the *Polaris* unit and inform them of this decision. Cadet Roger Manning is being taken out of the unit."

"I refuse, sir," said Strong, staring at the wall.

"You cannot refuse."

"I do, sir. I will not tell those cadets that they are being broken up after months and years of telling them how important it is to learn to live and work and depend on each other."

"Would you prefer the news to come via the grapevine?"

Strong hesitated. "No, sir," he replied softly.

Walters came around the desk and put his hand on the young captain's shoulder. "Steve, I expected this fight from you," he said. "But try to understand, try to see what it will mean to Mars Academy to have someone like Roger Manning there. That boy is one of the finest astrogators I have ever seen. Keeping Tom and Astro and Roger together is just wasting good material. They have to be divided and their intelligence and talent for leadership spread around where it will do the most good."

"Yes, sir," said Strong, getting control of himself.

"Will you tell them?"

"Yes, sir. I will."

"And will you stick with them as a unit instructor to break in the new cadet?"

"Yes, sir. But I think it might be better if you let Tom and Astro select their new astrogator. They're pretty hot spacemen, you know. There are a hundred cadets that would give their space boots to be a member of the *Polaris* unit."

"Roger's replacement has already been selected."

Strong looked at him. "Who, sir?"

"T. J. Thistle."

Strong looked up sharply. "Thistle!"

"That report of the personality conflict between Manning and Thistle, and the eventual outcome of the scrape in the asteroid belt, convinced Major Connel and the Reviewing Board that Thistle was the right man. Psychologically, he is perfect for them. He's the same type as Manning."

Strong relaxed a little. "It might not be so bad at that." He grinned at Commander Walters. "They already like him."

"Then it's settled," said Walters with a sigh of relief. "I'll have them assemble here in the office."

"Don't do that, sir. Let me tell them in my own way when the right time comes."

"When would that be?"

"Perhaps tonight-or tomorrow."

"Too late. Manning leaves for Mars tomorrow night. And we have a little surprise for him, tomorrow afternoon."

"Then in their dormitory, sir," said Strong.

Walters nodded. "I'll have them report to their quarters."

Strong came to attention and saluted. "Request permission to leave, sir."

"Permission granted. And good luck, Steve."

Strong walked slowly out of the office and down the long corridor to the slidestairs. He descended to the ground floor of the Tower of Galileo, and stopping for a moment to light his pipe on the steps overlooking the grassy quadrangle, he continued to the slidewalk and stepped on the one heading in the general direction of the cadets' dormitory.

"Hiya, Steve!" a cheery voice greeted him. But Strong did not look up or acknowledge the call. He puffed on his pipe thoughtfully as he glided across the quadrangle to the crowded plaza outside the cadets' dormitory, not conscious of the greetings of the cadets around him. He walked into the building where Warrant Officer Mike McKenny was eating out several cadets for some minor infractions.

"Yer nothin' but space bubs while yer wearin' the green uniforms! Ya hear that? When a senior cadet tells ya to do something ya do it, or yer backs will be busted scrubbin' pots an' pans in the galley! Now carry on!"

Strong smiled absently and walked to the slide-stairs. Riding up to the forty-second floor, he strolled down the corridor until he came to Room 42B. On a brass name plate on the door, in neatly lettered script, were the names of the occupants and the unit.

He opened the door gently and entered. The room was deserted. Walking around the room, he idly inspected the cadets' gear and glanced through their textbooks. He stared at the bench beside Roger's bunk, recalling that he had sat on that bench the first day he met them, telling them that the most important thing in Space Academy was to look out for the other fellow as well as yourself.

He was standing at the window, gazing out over the Academy grounds and listening to the faraway roar of the jets at the spaceport, when the door burst open and Tom, Roger, and Astro tumbled into the room.

"You big galoot!" shouted Roger. "I'll cut you down to my size and then beat the stuffings out of you!"

He jumped on Astro from one side, while Tom leaped at him from the other. They all went down in a heap at Strong's feet, punching, grappling, wrestling, grunting, and laughing.

They were completely unaware of Strong's presence, and he waited until Astro was pinned to the floor before calling them to attention.

They were happy to see Strong, expecting another assignment

aboard the *Polaris.*

"Where do we go this time?" asked Tom. "Roger is about to bust trying to prove a theory which he and Thistle worked out."

"You're not going anywhere, Tom," said Strong softly. "Sit down, all of you."

His somber tone dampened their gaiety, and as they found seats on the bunks, they eyed him curiously.

"I've got some pretty bad news for you," he said gently.

They looked at each other.

"How bad, sir?" asked Astro.

Strong took a deep breath. "I'll get it over with quickly," he said. "First I want you to know that I fought as hard as I could against these orders. But the decision stands, and you'll have to accept them."

"We've been grounded!" said Tom, voicing his idea of the worst thing that could happen.

"They're taking the *Polaris* away from us!" exclaimed Astro.

"No." Strong paused and looked at each of them slowly before he resumed, his voice hardly audible. "The unit has been broken up. Roger has been assigned to Mars Academy. He leaves tomorrow afternoon."

Nothing in the whole universe could have stunned the three cadets more. For a long moment they sat stone-still and stared at him unbelievingly. Finally Tom shook his head and stood up.

"Excuse me, sir, but I-" he stammered, and then turned toward the door, his eyes brimming with quick, hot tears. He ran from the room.

Astro stared at Roger dumfounded, tears streaming openly down his cheeks, his big shoulders quivering.

Roger Manning sat very still. His face showed no emotion, but his eyes were cold and blank.

Strong turned away. He stared out the window but could not see a thing.

Suddenly he heard a loud crash behind him. Turning quickly, he saw that Astro had shoved his fist through a one-inch-thick locker door. But Roger remained perfectly still.

The *Polaris* unit of Tom Corbett, Roger Manning, and Astro had made their last flight together.

CHAPTER 5

"At-ten-shun! Fo'ard! *Harrrcchh!"* roared Chief Warrant Officer Mike McKenny, resplendent in his full-dress scarlet enlisted man's uniform. As drill officer of the Cadet Corps, he led the entire contingent of three thousand cadets in full-dress review before Roger Manning.

Thirty companies, consisting of a hundred cadets in each company, marched in methodical precision across the quadrangle, past the officers of the Solar Guard grouped on the stairs of the Tower of Galileo. Immediately in front of them, standing alone at rigid attention, Roger Manning accepted the honor of the review with not a thread of emotion or feeling.

"Eyes-*Right!"*

Mike's order snapped through the crisp air as the first company marched past. The Solar Alliance flag dipped in salute to the cadet selected to represent Space Academy, Earth, in an exchange of students with the Mars Academy, the first step toward integration of the two great schools.

At the precise moment that the colors were dipped, the Academy band began to play and more than three thousand voices sang the one song that meant more to a spaceman than any other.

From the rocket fields of the Academy

To the far-flung stars of outer space,

We're Space Cadets training to be

Ready for dangers we may face.

Up in the sky, rocketing past,

Higher than high, faster than fast,

Out into space, into the sun,

Look at her go when we give her the gun!

As the full chorus echoed over the quadrangle, the companies paraded past Roger and marched to their stations opposite the Tower and came to rest.

Tom Corbett, Astro, and Captain Strong had been honored by being placed just to the rear of Roger as he took the review. Unashamed tears were streaming down the boys' faces. Neither of them could imagine what it would be like to fly without Roger, but at the same time they were proud that he had been selected over all other cadets for the signal honor.

The review was over finally and all the companies were standing at parade rest on their side of the quadrangle.

Mike McKenny stepped forward briskly and marched with the color guard toward Roger. Then, while the band played "Stars Afield" softly in the background, the Solar Alliance flag was stripped from the pole and folded with precision and care. Mike snapped to attention and addressed himself to Commander Walters.

"Sir," he roared, "request permission to present Cadet Manning with the colors!"

"Permission granted!" replied Walters.

Mike took three steps forward and extended the folded flag to Roger, who, without batting an eyelash, accepted it. Mike snapped a salute, took three steps back, and received a salute from Roger in return.

Mike made an about-face. His arms at his sides like ramrods, his jaw thrust forward, he barked commands to the cadets of the

color guards.

"Guard! Ready!"

The dozen cadets pulled the heat-blaster rifles from their shoulders and brought them forward.

"Aim!"

The guns were placed on their shoulders and aimed into the sky.

"Fire!"

A dozen shots crackled through the air as one.

"Fire!" roared Mike again. And again the shots reverberated across the quadrangle.

Three times the blasters were fired, filling the nostrils of those nearby with the pungent odor of burning chemicals.

"About-face! *Harch!"* roared Mike. The color guard marched back to their position before the Cadet Corps and came to attention.

"By the hand-*saluter* roared Mike. *"Salute!"*

As one, every individual on the field in a Solar Guard uniform, from Earthworm cadet to thirty-year line officer, snapped to attention, saluting Roger Manning.

Roger returned the salute, holding it a brief second longer than usual, then brought his hand down sharply and executed a perfect about-face to look up at Commander Walters standing on the Tower steps.

Walters stepped forward and unfolded a scroll. Clearing his throat, he began to speak, his words ringing over the quadrangle:

"It is my privilege and honor to present to Cadet Roger Manning the Academy Medal of Honor for his astute leadership, unparalleled bravery, integrity, honor, and service to the Space Cadet Corps!"

Walters paused, looked directly at Manning, and added in softer tones:

"And it gives me the greatest of pleasure to say that Cadet Manning is following in the footsteps of his famous father, Captain Kenneth Rogers Manning, who was awarded the Solar Medal for bravery above and beyond the call of duty."

With that, Roger stepped forward, immaculate, cool, and poised-a born spaceman from the top of his blond head to the bottom of his quick feet-and accepted the gold medallion, a spaceship blasting off engraved on the front and his name inscribed on the back.

He saluted and stepped back. As soon as he brought his hand down, completing the salute, the entire Cadet Corps ripped loose with three prolonged cheers.

The review was over.

Tom, Roger, and Astro stood at the base of the giant passenger liner at the Atom City spaceport, avoiding each other's eyes.

"Don't get yourself all jammed up with those Martians, Manning," growled Astro.

"Yeah, they're pretty tough," added Tom.

"O.K.," said Roger softly.

"And don't forget, there's plenty of time to send us plenty of letters or audiomessages," Astro added.

"Yeah, sure," agreed Roger softly. "Sure, I'll do that, you big ape."

"Coming aboard, Cadet?" asked a pretty stewardess, standing in the hatch. "We raise ship in two minutes."

"Coming, miss," said Roger, not even bothering to comment on her looks. He looked at Astro and Tom. "Well," he said, fighting back the lump in his throat, "I guess this is it."

"Yeah," said Tom huskily.

"Looks that way," nodded Astro.

"Don't let this big gorilla get into trouble, Tom," said Roger, looking up at Astro.

"And don't you get fancy up there," said Tom, pointing toward space.

"One minute to go, Cadet," said the stewardess. "I'm sorry, but I have to close the hatch."

Tom gripped Roger's hand firmly. "Spaceman's luck, Roger," he said.

Astro took the other hand. "So long," he gulped, "friend."

"Good-by, both of you," said Roger with a forced grin. "Spaceman's luck!"

Roger hopped up the steps into the ship, and the hatch slammed closed behind him. Tom and Astro hurried back from the ramp to avoid the blast-off exhaust, and, standing behind the Titan crystal deflector, watched the great ship rise slowly off the ground. In half a minute it was lost in the cloudless blue sky over their heads.

Without a word, they turned and climbed into the nearest jet car, a tear-shaped vehicle with a clear plastic top. "Monorail station," ordered Tom.

They rode through the streets of the modern city in silence. Even later, when they were seated in the soft reclining chairs of the sleek monorail train, hurtling back to Space Academy, they did not talk. Neither of them wanted to put into words the deep emptiness they felt.

Finally it was Tom who broke the uneasy silence between them. "Look at it this way, Astro," he said. "Roger's gone, and we have to learn to live with it."

The big Venusian was silent.

"The unit would have been broken up, anyway, as soon as we graduated from the Academy," Tom continued. "We would have all been assigned to different duties."

Astro merely turned and looked out the window.

"It happened a little sooner, that's all," said Tom. "We've got responsibilities to face. Roger has his, and we have ours."

"Tom," said the big cadet softly, "I'm going to apply for a transfer."

"No, you're not," said Tom emphatically.

"Why not?" asked Astro. "It won't be the same with another cadet in the *Polaris."*

"Don't forget," Tom said softly, "the psychographs of every cadet at the Academy are charted and cross-checked. Commander Walters would not put in another cadet unless it was psychologically sound and he was sure that he would fit."

"O.K., but what's that got to do with our *liking* the guy?"

"Remember the way we felt about Roger? Neither of us liked him. Maybe you've forgotten that fight I had with him at the beginning of our training?"

"I haven't forgotten," said Astro. "But another guy on the radar deck-well, I don't think I could trust anyone else up there." Astro shook his head. "Roger's the best astrogator there is. How could we do with less?"

"We'll have to do with less," replied Tom. "That's the way it is. You have to expect the same difficulties in everyday life as you would in space aboard the *Polaris.* Why not wait until we see what kind of a guy the new cadet is, before we judge him?"

Astro was silent for a long time. In fact, he did not speak again until they were standing on the platform waiting for the monorail to come to a stop at the Academy station. "O.K., he's going to get a square deal," the Venusian cadet said, "but he's sure going to have

to show me a lot before he can step into Roger's shoes."

"He's not going to step into anybody's shoes," Tom asserted. "He's going to make his own place on our crew, and whether you like it or not, we've got to help him."

The train finally glided into the Academy station and Tom and Astro were swept across the platform in the mobs of noisy cadets getting on and off, coming back from leave or just going on a week-end pass to Atom City.

Ordinarily a week end would have found Tom and Astro relaxing in Atom City, but on the following Saturday morning, Tom and Astro didn't even bother to go down to the mess hall for breakfast since it was not obligatory. They had a light snack at the canteen and idled away the afternoon, watching a mercuryball game. That night they sat through an uninteresting stereo in the Academy movie house. Sunday morning they went to the Solar Church and spent the rest of the day reading the Sunday papers and relaxing. Neither of them wanted to face the evening mess call. They knew Strong would introduce them to their new unit mate at that time. But by five in the afternoon, they were ready. Both had dressed and showered and were waiting for the first bell to dinner.

"I wonder who it will be?" Astro mused.

"Think we might be lucky enough to get someone like Tony Richards?"

"I sure hope so," said Astro.

The bell rang softly and they left their quarters, without another word, joining the other cadets on their way down to the mess hall. All around them various friends, who understood what they were feeling, came up and slapped them on the back, or made some gesture of sympathy.

Tom and Astro held their feelings in check and strode into the mess hall with the other cadets, mentally crossing their fingers. They were not surprised to find Captain Strong waiting for them at the table.

"Tom, Astro," he said, "I would like you to meet the new member of the *Polaris* unit. Cadet T. J. Thistle."

"Well! Well! Don't break down and cry, Astro!" the tiny cadet said breezily. "I'll astrogate circles around Manning. You have nothing to worry about with T. J. Thistle on the radar bridge!"

"But you will, if there are any more cracks about Manning!" growled Astro.

Tom glanced at Strong, who did not return the look. Avoiding Astro's eyes, he took a deep breath and faced the cocky little Martian.

"Glad to have you aboard, Thistle," he said heavily.

CHAPTER 6

For more than a week, T. J. Thistle had been working with Tom and Astro on carefully selected projects at the Academy under the watchful eye of Captain Strong. Tom had already begun to accept the new cadet, and the young captain noted with hope that a friendship was developing slowly between the two boys. But Astro was much slower in coming around. The big cadet's allegiance to Roger was strong and nothing Cadet Thistle could do or say weakened his icy reserve.

And while the integration of the new cadet in the *Polaris* unit was high on the list of Commander Walters' problems, another problem, more serious and more immediate, demanded his attention.

When Walters summoned him to his office late one afternoon, Captain Strong thought it was about the *Polaris* unit.

"No," Walters said, when Strong began a progress report on the activities of the three boys, "that is not what I wanted to see you about."

Strong was relieved. He felt sure that in time Thistle would fit into the unit and that Astro would come around, but he would need more time. He expressed these feelings and then asked, "What is it, sir?"

"Steve," Walters sighed heavily, "what do you know about the project known as Beachhead?"

Strong sat up straight. "Beachhead!" he exclaimed. "Why, that's one of the laboratory operations, isn't it, sir?"

Walters nodded. "To a degree. Operation Beachhead is a project developed by the Academy line officers in close cooperation with the idea men over at the lab."

The commander walked to the opposite side of the office and

pushed a button on the wall. One section of the wall slid back, revealing a blank screen ten feet square. Walters pushed another button and a picture of a deep-space star field appeared on the screen. Simultaneously, the lights in the office grew dim. Walters pointed to the star Alpha Centauri, then traced a direct line with his finger to the planet Wolf 359, continuing past it to a bright dot of light just at the edge of the screen. He pushed the projection button again, and a second star field appeared on the screen. The dot of light was immediately recognizable as a brilliant star, the dominating celestial body among many hundreds of others.

"Sirius!" exclaimed Strong involuntarily.

Walters nodded, and Strong came up beside him to examine the bright star that was really a double star, a twin, white dwarf. "For years," Walters said, "we have suspected Sirius of being responsible for a number of strange incidents in space that could not be accounted for. For instance, deep-space skippers have reported instrument failure when they came close to it. There have been a few crack-ups, and we have lost men. We began to investigate about two years ago." The commander paused and sighed. "But how do you investigate something that threatens the life of the investigators?" he resumed. "Well, Major Connel, Professor Sykes, and Dr. Dale decided to work on the problem. They built a robot rocket-a huge missile-engineered as finely as a watch. They loaded it with recording instruments that could measure every kind of disturbance from small quakes to methane ammonia surface storms, and they finally narrowed the source of the main disturbances to this satellite here."

Walters pointed to a small white body orbiting slowly around the huge double star. "This satellite or moon, which we've named Thor, has been host to the robot rocket for six months."

"The missile is orbiting around the satellite?" asked Strong.

"Yes," the commander replied. "It was fired about seven months ago from Titan and has been orbiting around Thor for nearly six months now. It has recorded enough data for our technicians to work on. They hope to learn whether we will have to compensate for the trouble with different or new instruments when spaceships pass

close by, or whether they'll have to stay out of the area altogether."

Walters pushed the button again, and as the image on the screen disappeared, the lights in the office came up. He returned to his desk.

"Now this is why I've called you in," he announced. "I want you to take the *Polaris* unit, fly out to Thor, and reclaim the robot rocket."

Strong stiffened. "Sir, I don't think the *Polaris* unit is ready to accept such a responsibility yet," he protested. "An assignment like this one always has a certain element of danger. I'm not sure that those three boys can work together well enough to handle emergencies."

"That's exactly why I'm sending them, Steve," said Walters coldly. "I feel this assignment will teach them to work together."

"I see," replied Steve thoughtfully. "It might work. When would you want us to blast off, sir?"

"Immediately!"

"Very well, sir." Strong rose and prepared to leave.

"And not a word about this to anyone, Steve," Walters warned. "There's another reason for this operation. We hope-and there is a good chance our hope will be realized-that Thor will give the Solar Alliance the biggest uranium strike to be discovered in our time."

Strong's jaw dropped open. "Uranium!" he gasped.

"Yes," nodded Walters. "So you can understand the need for secrecy. You will not even blast off directly for Sirius, but log yourself out as a routine patrol to Ganymede and then change course inside the Mars orbit. Your only stop will be for refueling at Alpha Centauri."

"Very well, sir," replied Strong.

"And another thing," Walters added. "You will have another cadet flying with you. Cadet Alex Monroe. He's a physicist who has been working on this project from the beginning. Monroe will handle

the robot rocket once you recapture it. There's no need to haul the whole projectile back to Earth. He will take out the recorded data, and then you can blast the rocket out of existence."

"Yes, sir," said Strong.

"That's all, Steve." Walters extended his hand and smiled. "Spaceman's luck!"

"Thank you, sir. We may very well need it."

* * *

Meanwhile, the *Polaris* unit was busy on a project of its own.

In hope of bringing the three cadets closer together, Captain Strong had placed Astro in charge of overhauling the power deck of an Academy supply ship. The idea behind Strong's plan was to make Astro open up. He knew that the Venusian cadet could talk anyone's ear off when it came to a discussion of the power deck of a spaceship. In this way, he hoped Astro would relax and give Thistle a chance to be friendly.

The three boys were stripped to the waist, since the heating chambers of the power deck were close and warm. They had been tearing down the lead baffles around the reaction-mass chamber all morning and now the intricate parts of the interlocking lead shields lay on the deck around them. Astro's eyes gleamed as he picked up one and then another of the dirty, sludge-coated plates.

"This is what happens," explained Astro to his two unit mates, "when the power jockey is too quick on acceleration. You have to feed the reactant slowly and easily, according to the *feel* of the pull of gravity on the ship itself."

"What do you mean 'feel'?" asked Thistle. "How can you feel something when you got a thousand tons blasting off the ground."

Tom grinned. "Astro can feel it," he said.

"You make it sound like an old-fashioned airplane where the pilot flew by the seat of his pants."

"There was a lot in the pilot's favor if he had a feel for his ship in those days," replied Astro. "He didn't have to depend on any navigator wizards to tell him where to go or how to fly. He could feel it himself."

Thistle's face suddenly clouded over. "Listen, Astro!" he barked. "I didn't ask to be sent to Earth Academy and I didn't ask to take Manning's place."

"Wait a minute," said Tom, sensing the friction in the air. "Take it easy, both of you!"

"I'll take it easy," growled Astro, his giant bulk towering over Thistle. "When this gnat-sized monkey learns he can't take Manning's place."

"Is that so?" replied Thistle, bristling. "You don't scare me with your size, Astro! I'll take you on any day in the week! If you want to fight, come and fight, but lay off the remarks about my taking Manning's place!"

"Why, you excuse for a man!" muttered Astro. "All I would have to do is sneeze and you'd blast off at a D-9 rate! Why don't you transfer out and leave us spacemen alone?"

"That would be easy, big boy!" snapped Thistle. "That would be the simplest thing in the world to do, but I don't quit, see? I figure I'm just as space-blasting tough as you think you are, and what you can dish out, I can take and give right back in spades!"

"You wouldn't last five minutes!" said Astro.

"You just try it, big boy, and see how long I last!" Thistle retorted hotly.

Astro took a step forward, but Thistle did not back up. He stood his ground, glaring at the giant cadet, his head tilted back so he could stare Astro in the eye.

"That's enough!" barked Tom, jumping between them. "You want to get killed, T.J.?" he snapped at the little cadet. Then turning to Astro, he glared at him angrily. "And you, you ought to be

ashamed of yourself! You think anybody's going to be impressed if you belt him around?"

Astro was silent.

"I'll tell you this, Astro!" Tom said heavily. "You bother T.J. and you'll have to take me on, too!"

Astro's face was impassive.

"You hear that, Astro?" Tom continued. "You'll have to take me on, too!"

Astro's face retained the same immobile expression as Tom blasted him.

"Make up your mind," said Tom, his voice harsh and biting with authority. Without realizing it, Tom Corbett had gradually learned the delicate, elusive job of objective command, berating his own best friend, if necessary, to assure smooth operation in the unit. Tom was very much affected by what he was saying to Astro. He was deeply touched by the strong feelings Astro had developed for Roger, as strong as his own, but when the success of the unit depended on co-operation, Tom Corbett, command cadet on the *Polaris,* was ready to demand instant respect for his judgments and decisions. A leader was not a leader unless he could *lead.* And Tom was emerging as a sound, responsible leader.

That was what Strong felt as he stood to one side just off the power-deck chamber, listening to the argument. He was proud of the way Tom was handling the situation.

Astro did not speak. He turned his back on Tom and T.J. and began working on the lead baffling shields with a cold ferocity. Tom turned back to T.J.

"And you get this through your head, Thistle!" he barked. "I'm going to see that this unit succeeds, if I have to beat the stuffings out of both of you. *And if you don't think I can-or will-you just step out of line again!"*

Thistle nodded, picked up one of the plates, and went to work,

while Tom attacked still another section of the dirty lead shield. Strong waited a few minutes before coming into the chamber so that they would not suspect he had overheard.

"Nice job," he said airily. "But you better get it finished fast. We've been assigned to a mission and we blast off right away."

Neither of the three boys replied to this matter-of-fact announcement immediately. It wasn't until Strong told them they were going into deep space that any emotion registered on their faces. Try as they might, they could not suppress the grins that curled over their lips at the news.

"Exactly where are we going, sir?" asked Tom.

"Sirius!" said Strong. "And I want to warn you now so there won't be any slip-ups. This is top secret. To anyone and everyone: this is a routine flight to Ganymede."

And with this news, the three cadets broke out into a cheer, their animosity toward each other momentarily forgotten. Steve Strong's eyes were grave and thoughtful as he watched them, wondering if a flight into space, with all its dangers, would not be too much for a unit of Corbett, Thistle, and Astro to survive.

As soon as Strong had retreated to the ladder and left the ship, the three boys dropped their tools and gathered for excited talk and speculation about the secret mission.

"What do you think it is, Tom?" Thistle asked.

Tom's brow was creased as he answered. "Whatever it is, one thing is sure."

Astro and Thistle looked at him questioningly.

"Anything," Tom added, "top secret spells trouble and hard work. And that only means one thing to us-as a unit, we've got to get on the ball!"

CHAPTER 7

In a quiet residential section of Atom City a jet car sped through the streets and braked to a stop before a small, modest house. Two men got out. They glanced over their shoulders furtively, hurried into the house, and closed the door quickly behind them. A few moments later a faint light appeared in the basement window. The dark night was further emphasized by the light of a small moon hanging just above the horizon and the shadows it cast created an atmosphere of tense expectation. Outwardly, there was nothing to suggest anything unusual about the little house. It was very much like thousands of others in the suburbs of Atom City. It was surrounded by a neatly trimmed lawn and carefully tended shrubbery, yet a certain air of mystery clung to the house like the threat of an impending storm.

In the basement the two men from the jet car stood nervously waiting the arrival of a third man.

"What do you think he wants?" asked Hank Lister, a tall, bony man wearing the black trousers and tunic of a merchant spaceman.

His companion, Boris Willard, shook his head negatively. "I don't know," he muttered, shuffling his feet noiselessly.

They waited a few minutes more, and then, hearing a door open above them, turned to face the small slidestairs. A man in dressing gown glided down to their level. "Hello, Hank-Boris," he said casually. "Glad you could come."

"What's this all about, Wilson?" Lister demanded impatiently.

"We're blasting off for Alpha Proxima in the morning," Willard added. "We've got to get some sleep."

Jack Wilson, young, not more than thirty, with deep-set eyes and jet-black hair that was cut short, laughed lightly. "Alpha Proxima, eh?" he said. "Still prospecting for peanuts, I see."

"We'll get our big strike yet," grumbled Willard.

"Not the way you two are going about it." Wilson laughed. "But if you're willing to give up your precious sleep and your trip to Alpha Proxima, you'll get your chance at that strike."

"What're you talking about?" demanded Lister.

Wilson casually walked over to the corner counter to pour himself a cup of coffee from the tap connected to the pot in the kitchen above. "There's a ship blasting off from the Academy tomorrow night," he said, "and do you know where it's going?"

"Stop playing games!" snapped Lister.

"Get on with it!" barked Boris Willard, thick through the chest, with powerful shoulders. He was dressed like Lister, in tight-fitting black tunic and trousers.

"Well," began Wilson, "two years ago I told you that I might have a deal for you. There was something stirring around the laboratory that I couldn't learn anything about. And although I've worked on some pretty big secret projects with Professor Sykes and Dr. Joan Dale, they wouldn't let anyone near it. They kept everything under guard," he snorted derisively. "Major Lou Connel was in charge of security, and you know him-"

"Wait a minute!" interrupted Willard. "If Connel is mixed up in this, I don't want any part of it."

"Me neither," said Lister.

"Relax! By the rings of Saturn, you two sound like a couple of Earthworms instead of professional space prospectors!" Wilson filled the coffee cup again and turned back to them, his face and voice hard. "Even if Lou Connel was in on this," he said, "it wouldn't make any difference. This time I'm going to hit it- and I'm going to hit it big."

"What's the deal?" asked Willard.

"As I said, tomorrow an Academy spaceship, the *Polaris,* is going to blast off supposedly heading for Ganymede." Wilson took another sip of coffee and chuckled. "But as soon as it gets past the

Mars orbit," he said, "it's going to change course."

"So what?" demanded Lister, finally helping himself to a cup of coffee.

"The spaceship is tied up with the secret project!"

"How do you know?" asked Willard excitedly.

"What do you think I've been breaking my back in that laboratory, taking Connel's gaff and putting up with that dopey Professor Sykes, all these months for?" Wilson demanded bitterly. "I've been sweating this one out over two years, ever since Connel and Sykes became overly interested in reports by deep-space skippers that their gear went haywire after blasting by Sirius. Connel and Sykes don't get chummy and start working together for nothing. I made it my business to be on the inside."

"What are they going after?" Lister asked.

"What do you think?"

"Uranium?" asked Willard hopefully.

"Right!" replied Wilson. "More space-blasted uranium than you can conceive! A whole satellite of uranium."

Willard and Lister looked at each other and grinned. "O.K., what are the details?" Lister asked.

"It's simple," replied Wilson. "The whole project has been centered around a robot rocket which was fired from Titan about seven months ago and has been circling around Thor, a satellite of Sirius, recording data on film and tape audiographs. The *Polaris* is going out to reclaim the rocket. The information on those tapes and the film will tell how much, not *if* there is any, but *how much* there is!"

"Wow!" gasped Willard.

"What do we do?" pursued Lister.

"Nothing much, Hank," replied Wilson. "You just follow the *Polaris* out to Sirius in your ship and stand off in space until they pick up the rocket. Then you move in."

"Move in?" asked Boris suspiciously. "Not politely, I suppose."

"Hardly." Wilson laughed. "Not if you want the data from that robot rocket. They won't just hand it to you on a silver platter."

"I get it," snorted Lister. "A hijack job."

"Congratulations," Wilson murmured dryly.

"All right. Suppose we do get the dope?" growled Willard. "What good will it do us? How does that get us the uranium?"

"Pay attention, because this is the tricky part of the whole plan." Wilson's eyes glowed with excitement and he spoke rapidly. "According to the space code, anyone who claims to have found a virgin field of uranium has to offer concrete proof that there is uranium in the stake-out, otherwise people could go out and lay claim to everything in space and then search it out at leisure-"

"Sure, sure. We know that," Lister interrupted. "We've been trying to beat that rap for years."

"You can't," replied Wilson. "That's why you're both still a couple of space rats looking for that big strike."

"All right," grumbled Boris Willard. "Knock it off. What's that got to do with this operation?"

"Everything," Wilson said. "The rule applies to the Solar Guard too! They have to get proof that there is uranium before they can file a claim. And their proof is in that robot. So if you get all the information, you'll do two things-"

"Wreck their claim," Lister interrupted. "And set up ours!"

"Lister, you're a genius," sighed Wilson, the sarcasm in his voice unmistakable.

"It sounds real nice and pretty," Boris Willard growled. "But have you figured how we're going to get away with it?"

"Just knock off that Solar Guard crew," said Lister excitedly. "It'll be a cinch, Boris."

"Sure," replied Willard acidly. "Us against an armed cruiser. Like taking candy away from a baby."

"That's a mere detail," said Wilson casually. "And I'm sure a whole uranium field will give you ample inspiration as to a method."

"I'd take on the whole Solar Guard fleet for something like that," Lister chortled.

"And suppose we do get the records?" said Willard stolidly. "Suppose we show up with all the proof? The Solar Guard Claims Board isn't dumb. They'll know how we got it."

"Not if the Solar Guard cruiser is wrecked," chimed in Wilson. "Not if it looks like the ship was hit by a meteor, or it crashed on the satellite and all the records are destroyed."

"Then how would we have the records?" Willard persisted.

"You'll have copied them! Blast it!" Wilson exploded. "Do I have to do all your thinking for you? Those are mere details which we can work out! The over-all plan is for you to show up a month or so later with proof of the uranium deposits, that's all. And once you get that from the *Polaris* crew, we're a cinch!"

"Wait a minute!" protested Lister. "I've heard about the *Polaris* unit. They're pretty smart kids. We might have trouble with them."

Wilson grinned. "No, you won't. One member of the unit has been taken out. The unit is not the same. You'll have no trouble."

"It sounds like a cinch," said Lister with a big grin.

"Yeah, but where do you come in, Wilson?" asked Willard. "Can't they connect you with this? After all, you work right there in the laboratory."

Wilson's face hardened. "What connection can there be if the *Polaris* and her crew are lost-victims of the mysterious satellite? And besides, no one will ever know we're working together. The claim will be registered in your names. I'll be your silent partner. I get my one third under cover."

"That sounds fair enough," agreed Boris Willard, almost too casually.

"And just so there is no mistake about my getting a full third," said Wilson airily, "I've recorded the entire conversation we've had here tonight. You forget to give me my share, and though I may go to prison, you'll keep me company!" Wilson grinned.

"Why, you!" snarled Willard, stepping forward, fists clenched.

"Don't, Boris," said Wilson easily. "You'll only be hurting yourself. After all, isn't one third of a billion credits enough for you?"

"A billion!" gasped Lister.

"A cool billion is the estimate of what the uranium deposit on that satellite is worth."

"O.K.!" said Boris Willard, relaxing again. "It's a deal."

The three men shook hands. "Now, for the details of the trip," said Wilson. "Here's the way I suggest you take over the *Polaris . . ."*

The three men, hunched over their coffee cups, began studying star charts and supply lists for the deep-space voyage to the brightest star in the heavens and the most ambitious criminal act of claim jumping ever attempted.

* * *

An uneasy peace had developed between Astro and Thistle in view of their mission to Sirius. The three boys had been swept up in a common bond of enthusiasm over the flight beyond Pluto's orbit. Busily packing their gear in the dormitory, Thistle, Tom, and Astro were exchanging wisecracks when the door opened and a blue-clad cadet entered softly.

"Pardon me," he said loftily. "I presume that this is the *Polaris* unit?"

The three cadets stopped their packing and turned to the new arrival.

"That's right," Tom replied. "You must be Alex Monroe." He extended his hand in greeting.

Monroe appeared not to notice it and walked lightly into the room. "Yes, I'm Monroe," he said. "Who are you?"

"Tom Corbett," said Tom, dropping his hand and shrugging. "This is Cadet Astro, power deck, and Cadet Thistle, radar bridge. I'm command cadet."

Monroe nodded his head coldly. "Captain Strong suggested that I come up and get acquainted," he said.

"Well, sit down and tell us about yourself, Alex," Astro said good-naturedly.

"I prefer to stand," the cadet replied disdainfully. "And if you don't mind, Cadet Astro, I would prefer to be less informal."

"Informal?" Astro blinked and looked at Tom.

"Very well, Cadet Monroe," said Tom, with a wry grin. "If that's the way you want it." He turned to Astro. "He means he doesn't want you to use his first name."

"Oh," said Astro gently. "Well, I can understand that, with a name like Alex."

"I may as well warn all of you now," said Monroe, raising his eyebrows slightly. "The more formal our relationship is during this trip out to Sirius, the better it will be for all of us."

"If getting to know you," said Thistle dryly, "would make us behave like you, Brain, I think that's a good suggestion."

Monroe stiffened. "I don't like that name, Cadet Thistle."

"Oh!" Thistle smiled. "Pardon me. I just meant to be as nasty as I could."

Monroe's face turned red and he almost lost his composure, but he recovered quickly. "Nothing you can say will annoy me," he said in a carefully controlled voice. "Nothing you can do will interest me. And now that I've had the dubious pleasure of meeting you, you'll pardon me while I leave."

As he turned to the door, Tom, Astro, and Thistle acted as a unit for the first time. Tom snatched a sheet off his bunk and spread it on the floor before Monroe, Astro grabbed the door and opened it, and Thistle bent low in a courtly bow as the cadet stalked out of the room.

When Monroe had disappeared, the three cadets burst into laughter. Posturing in an imitation of Monroe, Thistle shouted:

"And now that I've had the *du-bbee-ous pleas-uuurrre* of meeting you, you'll *phad-don* me while I leave!"

The other two cadets roared with laughter as Thistle continued his impersonation until finally Tom settled on his bunk and raised an admonitory finger.

"Don't sell that guy short!" he said seriously. "Monroe is one of the biggest brains at the Academy. He's not a line cadet like us, just busting rockets. He's a nucleonics major and he works with people like Professor Sykes and Dr. Dale. From all the scuttlebutt about him, it's a wonder a guy that smart can be alive."

"That doesn't excuse him for behaving like a fool," grumbled Astro.

"Sure it does," said Thistle. "When you got his kind of brains, you can get away with a lot of things."

"I'd feel better," commented Tom, stuffing gear into his space bag, "if he would relax a little. On a long hop like this, a guy like that can wear you down."

"We'll straighten him out," said Astro. "Gimme another towel,

Thistle!"

"Sure!" T.J. threw him the towel.

Tom stopped. The simple gesture of a towel being asked for and given between Thistle and Astro was great progress in their friendship. Tom was relaxed for the first time in weeks. But even as he hurried with his packing, a frown grew slowly on his face. A long hop to deep space with friction in the crew spelled trouble. Big trouble.

CHAPTER 8

The *Polaris* stood poised on its stabilizer fins, its nose pointed spaceward, on the ramp, ready for blast-off. Food, clothes, spare parts for emergency repairs, equipment for building spare parts, extra tanks of oxygen, electronic gear for repairing the miles and miles of wiring that ran throughout the great ship, all of this and more had been stored on the vessel in preparation for the deep-space flight.

Captain Strong had checked the supplies as they were put aboard and when the last of the gear had been stowed, and the storage hatches closed and sealed off, he entered the ship and called into the intercom near the main hatch:

"Captain Strong to all hands! Check in!" "Cadet Corbett standing by on the control deck, sir," replied Tom over the intercom.

"Cadet Astro standing by on the power deck, sir."

"Cadet Thistle standing by on radar deck, sir."

"Cadet Monroe standing by as ordered, sir."

"Very well," Strong declared. "Close the main hatch and start the pumps, Corbett!"

Strong watched the great pluglike hatch close slowly, and then nodded as the faint hiss of the oxygen pumps began its never-ending whisper, supplying the ship with life-giving air for the entire space voyage. Satisfied, the Solar Guard captain hurried to the control deck and took his place beside Tom in the copilot's chair.

"Ready for blast-off, Tom?" he asked.

"Ready, sir."

"Proceed."

"Aye, aye, sir!" replied the cadet.

Tom went to work with practiced ease. His hands moved quickly over the control panel, pulling levers, turning dials, and pressing buttons that would activate the giant ship.

"Power deck, check in!" he called into the intercom.

"Power deck, aye!"

"Are you compensating for the extra weight, Astro?"

"All checked out to the pound, Tom," replied Astro.

"Energize the cooling pumps!" said Tom.

"Pumps in operation!" replied Astro, and immediately the whine of the pumps droned through the ship.

"Feed reactant at D-11 rate for the extra weight!"

"D-11, aye!"

"Radar bridge, check in!"

"Radar bridge, aye!"

"All clear forward and up, T.J.?"

"All clear!" came T.J.'s reply.

"Stand by!"

Strong watched Tom go through blast-off procedure quietly, proud of the efficient way that the cadet handled himself and the big vessel. Tom picked up the intercom mike again.

"Polaris to control tower. Request orbit and blastoff time. Over to you."

"Tower to *Polaris.* Your orbit is seven-nine-three!" the voice of the tower operator replied. "Blast off fifteen hundred thirty-seven thirty!"

Tom repeated the instructions, concluding with a polite but crisp, "Thank you, tower!"

"Spaceman's luck!" said the voice.

"Did you get that orbit, T.J.?" asked Tom.

"All checked out!" replied the little Martian cadet.

The pressure of the pumps had been building all the time and the big ship began to vibrate. Tom watched the red hand of the astral chronometer over his head. It swept to within fifteen seconds of blastoff time.

"Strap in!" ordered Tom over his intercom.

He watched the red hand hit minus ten. "Stand by!" he called.

The ship was actually trembling now under the pressure of the pumps. The noise was deafening.

"Blast off minus five!" roared Tom, "-four, three, two, one-*zero!"*

Flame and smoke blasting from her exhaust, the *Polaris* rose from the surface of the ground slowly at first, then gradually picked up speed as the mighty reactors poured out tons of thrust. Accelerating faster with each passing second, the ship rocketed through the atmosphere, as though eager to reach the limitless freedom of space.

Inside, the cadets and Captain Strong were driven back into their chairs and cushions by the tremendous acceleration force. The pressure on their bodies seemed unbearable until, suddenly, they no longer felt any sensation of weight on them.

"Switch on gravity generators! We're in free fall!" Tom yelled.

Tom glanced at the astral chronometer. "Space-borne at fifteen thirty-eight fifteen, sir," he reported.

"Very well, Tom," acknowledged Strong as he straightened up in his chair. "Good blast-off. Very good. You're getting to be quite a

hot pilot."

Tom grinned. "Thank you, sir." Recording the blast-off time in the ship's log, he switched on the automatic gyros and was able to relax for the first time.

The ship was now operating on its own, guided by an electronic eye sensitive to and able to correct the slightest deviation in course and speed. Gyro-controlled, the *Polaris* hurtled through space toward Ganymede and the secret point of departure near the Mars-Jupiter orbit.

But unknown to them, another vessel blasted off from Earth at almost the same time. From a small private spaceport near the Academy, Boris Willard and Hank Lister had raised ship in pursuit of the *Polaris,* and were blasting several thousand miles astern, stalking the giant cruiser like an evil bird of prey.

With the Mars orbit safely behind them, T. J. Thistle began the complicated procedure of a course change for the giant spaceship. He sat before the controls of the radar bridge, his nimble fingers punching out the information on the high-speed electronic computer. He snapped the tab for the answer, read it, grunted satisfiedly, and then rubbed his eyes wearily. He had been on continuous watch for more than twenty hours, waiting to make the course change that would take them into deep space. He checked the answer twice more before flipping open the intercom key. "Radar bridge to control deck," he called. "Check in, Tom."

"Corbett is off watch, Thistle," replied Captain Strong's voice over the loud-speaker. "What is it?"

"Have the information for the course change coming up, sir," replied T.J.

"Very well, I'll record it," said Strong.

"At exactly twenty-two thirty-five, make fifty-degree turn to starboard, then three degrees up on the plane of the ecliptic. Give the ship ten seconds to steady herself, and then Astro can cut in the hyper-drive. That'll put us on a straight course to Alpha Centauri,

sir."

"Check," replied Strong.

"And if it's all right with you, sir," T.J. continued, "I'd like to put my station on automatic now and get some sleep. I've been on watch a long time."

"Of course, Thistle," said Strong. "But are you sure of this heading? A mistake of a fraction of a degree, and we'll be off Alpha Centauri by a couple million miles."

"The heading is correct, sir," replied Thistle.

"Very well. You can sack in now. Switch your scanner down to the control deck."

"Thank you, sir," said T.J. He hurriedly switched the radar scanner to the control-deck screen and slumped back in his chair, yawning loudly. Exhausted, he felt that he could climb right into the nearest acceleration couch and sleep for a week. There was a sudden noise behind him, and he looked up. Alex Monroe stood just inside the hatch, staring at him aloofly.

"What do you want, Brain?" asked Thistle, rising and pushing past him as he walked to the acceleration couch.

Monroe grabbed the little cadet by his tunic and held him back. "You're just coming off watch, aren't you, Thistle?" he asked.

"So what?"

Monroe spoke briskly. "I need your help. Come with me." And without another word, he turned to go.

"Wait a minute!" Thistle protested. "I just pulled a twenty-hour watch while you were sleeping. Now it's my turn to hit the sack!"

Monroe spun around lightly and looked at T.J. as if he were a specimen under glass. "I don't like working with you any more than you do with me, Thistle," he said bitingly, "but my job is the important consideration on this trip."

T.J. was dumfounded. "Is that so? Well, let me tell you something, *Brain!"* he snapped.

"I don't like that name, Thistle," Monroe interrupted, bristling.

"That's too space-blasting bad!" Thistle roared.

The clank of a hatch interrupted them, and they turned to see Captain Strong watching them, the expression on his face grim and foreboding. "What's going on here?" he snapped. "I could hear you two bellowing at each other down on the control deck." He looked at Thistle. "What's this all about, Thistle?"

"I just pulled a twenty-hour watch, sir," said Thistle, "and this guy comes in and demands that I help him!"

Strong looked at Monroe. "Demands?"

Monroe spoke smoothly. "I've tried to co-operate, Captain Strong, but apparently if you're not in the *Polaris* unit, you get no assistance."

Strong looked at both of them. "Thistle, did you bother to find out what Cadet Monroe wanted?" he demanded.

"Well-no, sir. He just came in and ordered me to come with him."

"It's only a few minutes' work, sir," interjected Monroe smoothly.

"And did you see if Corbett was busy?" Strong barked. "Or Astro? Didn't you consider that Thistle had just pulled a *triple* tour of watch duty?"

Monroe was silent, staring at some point just below Strong's eyes.

"I want co-operation on this trip from *everyone!"* Strong said in his harshest, most authoritative tone. He pointed to Thistle. "You help Cadet Monroe any way you can, and you"-he pointed to Monroe-"be more considerate of the cadets' working schedules. Is that clear?"

"Perfectly clear, sir," said Monroe softly.

"Yes, sir," growled Thistle.

Strong's tone was firm as he continued, "Now you pass the word along to Corbett and Astro. This mission is more important than you think. Reclaiming the information in the robot rocket is one part, and it might lead us to a new supply of uranium-"

Thistle's eyes opened wide. It was the first he had heard of the secret reason for the project. "Uranium!" he gasped.

"Yes, Thistle. Possibly a whole satellite full of uranium," replied Strong. "The instruments in the robot rocket will tell us exactly. So we on the *Polaris* have one job, to find the rocket so Monroe can reclaim the data." Strong turned to Monroe quickly. "And you, Cadet, had better not impose on my orders to Corbett, Thistle, and Astro to help you, by ordering them around as if they were Earthworm cadets! Is that clear, both of you?"

The two boys nodded slowly.

"Pass what I've told you along to Corbett and Astro! The first one that steps out of line gets more demerits than he can work off in a year!" Strong spun around and left them glaring at each other.

Monroe smiled smoothly. "Come on, Thistle," he said. "And remember-co-operation!"

"Go blast your jets, Brain!" said Thistle unhappily as he followed Monroe off the bridge.

CHAPTER 9

"Control deck to power deck! Check in, Astro!" Tom's voice crackled over the intercom and down on the noisy power deck. Astro picked up the mike.

"Power deck, aye!" he replied. "Go ahead, Tom."

"I'm getting a low reading on the strainer in the hyperdrive filter," Tom reported. "Check it, will you? I'll take over your controls."

"Right!" said Astro. He replaced the mike and turned to the main reactors. Hyperdrive was Astro's real love. He could stand for hours watching the operation of the complicated mechanism and needed only the slightest excuse to examine it without the protective lead baffling. Quickly donning his lead-lined suit, he attacked the shield of the powerful machine with a wrench, a blissful expression on his face.

In less than a minute the casing was off and the exposed strainer lay before him.

"Uh-huh!" Astro muttered. "There's the trouble. The filters are clogged." He reached in and pulled the filters out of the strainer. Holding them up to the light-radiation counter to see how badly they were damaged, he shook his head. "Needs new ones!" he decided. But when he turned to the supply locker at the rear of the power deck, he saw Monroe standing behind a protective screen, watching him with a bemused expression.

"What do you want down here, Brain?" Astro growled.

"I need you for some heavy work," announced Monroe.

"Are you nuts?" Astro exclaimed. "I can't leave the power deck with the casing open."

"I'll wait for you," said Monroe casually. "But hurry it up, will you?"

"I can't leave the power deck!" Astro bellowed. "Not a chance. Go somewhere else, Brain." He turned to pick new filters out of the supply locker, and when he turned back, he was surprised to find Monroe still there. "Are you still here?" he demanded.

"Waiting for you," Monroe said smoothly.

"Keep on waiting!" snapped Astro.

"Perhaps I'd better speak to Captain Strong," Monroe said evenly. "There isn't any reason why you can't put the ship on automatic and help me for a few minutes."

"Don't threaten me, Monroe," the big cadet growled, "or I'll smear you all over the deck!"

"Captain Strong wanted me to set up the new prisms for detecting radiation and gamma rays," Monroe said calmly. "I need your muscle to hold it in place while I adjust it." He shrugged indifferently. "Of course, if you want me to tell Captain Strong that you refused to co-operate-" He didn't finish the sentence.

Astro glared at him. Restraining a powerful impulse to step forward and belt the supercilious cadet, he turned to the hyperdrive reactor and inserted the new filters, and closed the casing.

He stepped to the control panel and snapped on the intercom. "All set, Tom. It was a dirty filter."

"O.K., Astro," came Tom's reply. "The reading's back up to normal now."

"And you'll have to handle my controls a little longer."

"Why? Something else wrong?"

"Nothing a good right hook wouldn't fix in time," Astro grumbled, glaring at Monroe. "I have to go help Monroe, or he'll send Captain Strong crawling down my back."

The big cadet closed the intercom key violently and turned to Monroe. "All right, let's go! And don't give me any more of your lip!

I'm in the right mood to see what would happen to that smug smile of yours if you got a fist in it!"

"Physical violence-that's about what I could expect from a specimen like you," said Monroe sarcastically. He turned away quickly, running up the ladder to avoid the waste rag Astro had been using to wipe his hands.

The antagonism Monroe generated served a strangely worthy purpose, however. So intense was Thistle and Astro's dislike for the physics cadet that a mutual respect-the respect that Strong and Tom had hoped would come in time-began to develop between them. More than once, Tom found T.J. and Astro sitting in the messroom swapping gripes over Monroe's attitude.

The *Polaris* was nearing the Solar Guard outpost on Alpha Centauri, the one and only refueling stop, when Monroe stopped off in the control deck and sat down beside Tom in the copilot's chair.

"Hiya, Alex!" said Tom casually. "How's the work going? All set to pick up the rocket?"

"The work is pretty much under control, Corbett," replied Monroe.

"Good," said Tom with a grin. "Long trip, huh? This your first hop into space?"

"Yes. And the trip is beginning to get a little dull."

Tom nodded toward the viewport. "We've got a long way to go yet, but there's Alpha Centauri up ahead. You can just see her there to starboard. That's our only stop. While we refuel, you can get out and stretch your legs."

Monroe nodded. "That will be a pleasant diversion," he grunted.

"And that's Sirius way up ahead," Tom continued pleasantly. "See that bright one? That's our baby."

Monroe looked at Tom with a quizzical expression. "You know, you puzzle me, Corbett," he said.

"Oh, how's that?"

"Your work is excellent. But those unit mates of yours!" Monroe's face showed his disgust. "You waste a lot of time on them. Are they worth it?"

Tom's face flushed. He gripped the controls tightly and turned to Monroe slowly. "I'll tell you, Alex," he said evenly. "A unit is only as good as each of its members. Astro and T.J. and myself make up a whole unit. If one of us flops, we all flop."

"If you really believe that," said Monroe coldly, "then you're no better than they are."

Tom's face burned with indignation, but he refused to allow himself the luxury of anger. "Listen, Monroe," he said finally, "Astro has the best mechanical and nucleonic mind I have ever come across, and T.J. is only equaled by one other guy on the radar deck-a guy incidentally who would probably put you in your place in about ten seconds, if he were around. As for me, I'm nothing but a rocket buster, a guy who flies a ship. Those fellows are the real brains in the *Polaris* crew and I wish I was half as good in my job as they are in theirs." Tom paused and then smiled. "They could even teach you something," he added.

"Don't be ridiculous!" Monroe snapped.

"I'm not," said Tom. "For your information, you set up that radiation prism wrong."

"Impossible!" retorted Monroe. "I adjusted it myself."

"You got the co-ordinates wrong," Tom persisted. "It should have been parallax seventeen instead of reflection twenty-two. Astro found the mistake, and T.J. corrected it."

"Corrected it?" asked Monroe hollowly.

"You'll have to excuse me now, Monroe," said Tom. "I've got work to do."

A worried frown on his face, Monroe rose and hurried below

decks where he had set up the strange-looking gear he would have to use when they pulled the data out of the rocket. Quickly he checked the coordinator on the prism, and his face grew pale. Corbett was right. He had made a mistake and it had been corrected!

His mouth set in a grim line, he hurried to Captain Strong's quarters.

"Sir," he announced, "I have a request to make."

"What is it, Monroe?" asked Strong.

"I request, sir, that you instruct Cadets Corbett, Thistle, and Astro to leave the instruments in the afterdeck alone and not to touch them."

Strong frowned. "Are you sure the cadets have been tampering with them?" he demanded.

"Positive, sir," Monroe said. "Corbett admitted as much to me just a few minutes ago. I checked the readings on the instruments myself. I had set the co-ordinates for parallax seventeen, and they had incorrectly adjusted them for reflection twenty-two. That could have been a serious mistake, sir."

"I'll speak to them at once," said Strong.

"Thank you, sir." Monroe saluted smartly and left.

A few minutes later, on the control deck, Strong questioned Tom.

"Yes, sir, T.J. made the adjustment," replied Tom. "But it was just the other way round. Monroe made the mistake, and T.J. corrected it."

"Are you sure, Corbett?"

"I give you my spaceman's oath on it, sir."

"I see," said the young officer, thoughtfully stroking his chin.

"Have you any idea why Monroe would come to me with a story just the opposite of what actually happened? I would think he would be pleased to have a mistake corrected before any damage was done, or before I discovered it myself."

"I can make a personal observation, sir," Tom volunteered slowly.

Strong nodded. "Go ahead."

"For some reason, Monroe is eaten up by the idea that he has to be perfect."

"A scientist has to be," said Strong.

"No, sir, real scientists like Dr. Dale and Professor Sykes make allowances for mistakes. They really do, sir," said Tom seriously. "But Monroe wants to be perfect all the time and it bothers him if somebody catches him in a mistake. Especially us," he added.

"Yes," admitted Strong. "I know he's been giving you cadets a hard time."

"Don't worry about it, sir," said Tom, grinning. "It's working out better than you think, sir."

"How's that?"

"Both Astro and T.J. are so mad at Monroe they've become close friends. Why, they're even plotting ways of making him see the light!"

Strong's face darkened. "You don't think this prism business could be a joke, do you?"

"No, sir, it isn't," Tom replied. "Monroe really made a mistake. I sure wish I knew what was eating that guy. It's a strain to have a foul ball like him on a long hop like this. We've tried to be friends with him, sir, but he won't have any of it."

Strong nodded. "All right, Tom. Just do the best you can. Something will work out. After all, a deep-space hop isn't the best

place to iron out personality problems."

Four hours later the tiny Solar Guard outpost of Alpha Centauri was sighted. After identification and code signals were exchanged, Tom and Captain Strong prepared to land the giant rocket cruiser.

"We'll come in on sixty-power thrust, Tom. The gravity of Alpha Centauri is slightly less than ours back on Earth."

"Aye, aye, sir!" replied Tom.

A small rocket scout was sent out to meet the giant space cruiser and guided it into position over the small spaceport. A few moments later the three members of the *Polaris* unit brought the huge ship down with practiced ease, amid Alpha Centauri's tropical lushness.

Monroe was on the control deck, dressed in his blue uniform, ready to go ashore.

"Is this the first time you've ever been away from our solar system, Monroe?" Strong asked, noticing Monroe's eagerness.

"Yes, sir," replied the cadet eagerly. The poise and confidence he had exhibited throughout the trip had dissolved to reveal an ordinary excited young spaceman about to go ashore.

"Well, go ashore and have yourself a good stretch. This will be the last bit of solid ground we'll see for some time to come," Strong said.

"Do I have permission to leave the ship, sir?" asked Tom with a salute.

"Sure, Tom. You need some relaxation too. Go. It's fresh water swimming in the California Ocean. and very invigorating."

"Thank you, sir."

"Hurry up, Corbett!" growled Astro. "We three guys have things to do." T.J. and Astro were both dressed and ready to go.

Strong cleared his throat. "Just a minute, boys. I want you to stay *together!* All *four* of you!"

"But, sir," complained T.J., "Monroe doesn't like the things we like."

"I said stick together," said Strong dryly.

After a quick shower, Tom changed into his dress blues. Strong watched the four cadets troop off the ship together. As soon as they were gone, he turned to the mike on the control panel and called the traffic-control tower of the tiny outpost station. "This is Captain Strong aboard the *Polaris.* I am on a top-secret mission. All priority request."

"Go ahead, Captain Strong," replied the tower.

The blip he had seen on the radar scanner could have been anything. Anything at all-a wandering comet or asteroid. But he had to be sure. It couldn't be a ship-how could anyone know about his mission?

"I must speak to your commander and security chief at once," Steve Strong said after a long breath. He waited a few minutes before a gruff voice announced himself as the commander and demanded to know what Strong wanted.

"I want," said Strong, "a special security check placed on Cadets Corbett, Astro, Thistle, and Monroe, and necessary arrangements made for an official board of inquiry and psychiatric hypnosis questioning of all four."

CHAPTER 10

"This is our radar installation, Cadets."

The handsome young officer, Lieutenant Morton of the commanding officer's staff, had volunteered to show Tom, Astro, T.J., and Monroe around the beautiful little colony. More than ten thousand people, mostly Solar Guardsmen and their wives and children, with a sprinkling of civilian engineers and technicians, manned the tiny outpost in the stars, many light years away from their beloved Earth.

"Do you get much traffic out here, sir?" asked Tom.

"No, Cadet," replied Morton. "Not more than one or two freighters a week, besides the regular mail ship that comes in every four days. But we enjoy living out here. It's like having the whole Earth as your playground." He stretched his hand out toward the lush tropical jungle that was a virtual paradise of shrubs, flowers, and giant trees that loomed high over their heads. Astro's eyes grew a little misty. The vegetation of the planet reminded him of his home planet Venus. But there was a remarkable difference. Alpha Centauri did not have one poisonous snake, one ferocious beast, or any animal that did not live off anything but the vegetation.

"It's a remarkable world," Lieutenant Morton commented as he led them back through the center of Connel City, named after the famous major in the Solar Guard. "The creatures who inhabit this world have never known a natural enemy. Nothing has ever tried to harm them, and so they are friendly and gentle. You can walk through the jungle and meet some pretty ugly-looking creatures. But all they do is moan and bellow and come up to get a pat on the nose. The children of the colony have a wonderful time playing with a four-legged beast we call the caterpillar because its hide ripples when it walks, and the children slide up and down on its back like a ride at a carnival."

Astro laughed merrily and described how he hunted in the wild

jungles of Venus for the huge carnivorous tyrannosaurus.

Morton shook his head at the Venusian's tale. "We have a law that no one is allowed to mistreat any of the creatures of Alpha, or the exact same treatment will be given to the offender," he said.

"You run up against a real mad tyranno," said Astro with a grin, "and you'll soon find out who's going to do the mistreating."

After completing the tour of the colony outpost, the four boys strolled leisurely along the main street and gazed into the shop windows. Although the colony had been in existence only a short time, there was a noticeable change in the style of clothing, the people adapting themselves to the balmy atmosphere of the tropical world. The thick robes of the colder planets had been replaced with the luxuriantly soft stylon space cloth for cooler comfort.

"Let's eat," suggested Astro, stopping before one of the elegant restaurants that lined the street.

"How about a swim first?" suggested Tom, remembering Strong's suggestion. "Then we can work up an appetite and come back."

The boys hurried to a corner where they hailed a jet taxi and ordered the driver to take them to the nearest beach. A few minutes later they were flashing down a beautiful jungle trail, twisting and turning through the tropical wilderness to the California Ocean, a magnificent blue breadth of water that stretched three-quarters around the surface of the globe. Small Titan crystal beach houses had been built on the sandy waterfront and it was no problem for the boys to rent one for the afternoon. But they did have a problem finding a pair of swimming trunks big enough for Astro.

Monroe refused to swim. He was quite subdued and even Astro found it hard to maintain his dislike, except when he remembered some of Monroe's unpleasant actions on the trip out and some of the things he had said. So, while Astro, T.J., and Tom swam in the wonderfully refreshing water, Monroe simply sat and watched them.

At last they were too tired to swim any more, and using the

audioset in the beach house, ordered the jet taxi to come and pick them up. They were sitting on the front steps of the house, anticipating a huge dinner, when they heard the piercing wail of a siren from the direction of the road. The cadets ran down to the edge of the concrete strip to see what was wrong. A Solar Guard jet car raced around the last curve, siren screaming, and skidded to a stop before them.

Captain Strong got out, a paralo-ray gun strapped to his side. Inside, four enlisted Space Marines sat alertly, heat blasters ready.

"Get in!" Strong ordered, his manner rather cold and harsh.

The four cadets piled into the jet car, and with siren screaming, it turned and headed back toward Connel City.

"What's up, sir?" asked Tom.

"Can't talk now!" snapped Strong.

"Yes, sir!"

Tom noticed that the Marines were still holding the heat blasters at ready. He wondered about that. He wondered about Captain Strong's cold and distant attitude; but this was not the time or place for questions. The four boys darted looks at each other-but that was all.

They did not return to the ship. Instead, they roared into the compound of the Solar Guard station and drew to a stop before a heavily guarded building. The Marines got out first and held the guns on the four boys as they filed past.

"Inside," said the first Marine. Strong had gone in ahead of them. "Step on it, Cadet! This is official business!" he snapped when Astro was slow in getting out of the car.

The big cadet glowered at the Marine. "See me sometime when you haven’t got a blaster in your hand, Marine!"

The Marine looked him right in the eye. "But I have a blaster in my hand, Cadet. Now move!"

Astro moved.

Entering a small room, the boys saw Captain Strong standing beside a desk. A man in the uniform of a Solar Guard major sat behind it, and he also had a paralo-ray pistol strapped to his waist.

"Sit down," said Strong. "This is Major Hugo."

Major Hugo was a thick-set man with an expression on his face that quietly but firmly implied there would be no nonsense. "This is an official board of inquiry," Hugo announced.

"Inquiry!" exclaimed Tom involuntarily. "Sir, may I have permission to speak?"

"Go ahead," said Major Hugo.

"I am not, and do not intend to be impertinent, sir, but I respectfully request that we be given the advice, aid, and comfort of legal opinion."

Major Hugo looked at Strong, who suppressed a smile. "What are these cadets, space lawyers?" he snapped.

Strong said nothing, but he was proud of the manner in which Tom made his request *before* there had been any questions.

"Harrumph," Major Hugo cleared his throat. "Well, under the circumstances, I don't think that will be necessary, Cadet-er-what's your name-" He looked at the card before him: "Cadet Corbett."

"Yes, sir," said Tom, "but you said, sir, and I notice this is being taken down on a sound spool, that it was an *official* board of inquiry. In that case, sir, I feel it is my right, as well as my duty, to be represented by counsel before any information can be solicited from myself or my unit mates."

Major Hugo flushed angrily. "Very well, Cadet Corbett, I will act as your adviser."

"You can't, sir," said Tom firmly, "since you are the presiding inquiry officer. In any case, the choice is my discretion." He turned to

Captain Strong. "Captain Strong, will you act as our adviser?"

"He can't either!" said Hugo. "He's the accusing officer."

"Accusing officer!" gasped Tom. Dumfounded, he and his unit mates stared at Strong.

"I suggest that you enlist the aid of Lieutenant Morton," said Strong with a wink at the cadet.

The wink was enough to satisfy Tom. "Very well, sir. Lieutenant Morton, will you be our legal adviser?"

The young lieutenant smiled and nodded in agreement.

"All right!" said Hugo. "Now that the legal problems are straightened out, suppose we get on with the investigation."

"Yes, sir," said Morton. "But may I inquire as to the nature of the charges and the questions you wish to place before the cadets?"

"We just want to ask them some simple questions." Hugo sighed. "Captain Strong suspected a space craft was trailing him out here to Alpha Centauri. When we sent out a scout to find it, it had disappeared under what can be termed suspicious circumstances. Since Captain Strong requested me to examine these four cadets for the purpose of finding out if they had mentioned their mission to anyone, he naturally became the accusing officer," continued the major. "No one is going to Prison Rock, and no one is accused of murdering anyone. All we want to do is ask a few questions. All right, Cadets? All right, Lieutenant Morton? All right, Captain Strong?" he bellowed at the top of his voice, his exasperation making everyone, even the Marines, grin.

One by one, Tom, Astro, and Thistle were questioned closely about any conversations they might have had after being assigned to the mission into deep space. Each of them emphatically denied having revealed to anyone their true destination. They had followed Strong's instructions, and when queried about the assignment, had said that the *Polaris* was making a routine flight to Ganymede.

Hugo, then, questioned Monroe.

"Have you talked to anyone outside the laboratory about this project, Cadet Monroe?" he asked.

"No one, sir," said Cadet Monroe. "I haven't even spoken to my commanding officer about it."

"Who is your commanding officer?" asked Hugo.

"Major Connel, sir. I've been working on this special detail under his separate, direct command."

"That's a little ambiguous, isn't it? Didn't Major Connel conceive this idea?" snorted Major Hugo.

"Yes, sir. I believe it was his idea, sir," replied Monroe. "But I was just emphasizing how little I had to say to anyone outside the laboratory, sir, when I mentioned that I had not even discussed it with him."

"All right," sighed Hugo. "Take 'em over to the laboratory and let's find out the real truth."

"The real truth, sir?" asked Tom.

"You're going to be put under psychiatric hypnosis for total examination," explained Strong. "I'm sorry, Tom, but this is serious. There was a ship on our tail all the way out to Alpha Centauri and then it disappeared. There isn't another place it could have gone-to deliver cargo, for instance-and there's no other reason for it to be out here. We've got to discover the facts."

"We're not accusing you of lying, Cadets," said Hugo. "You simply may have, without realizing it, mentioned this mission to some unauthorized person who has made capital out of it. Perhaps *a* mechanic at the Academy spaceport." He sighed. "We cannot take any chances. There is an alternative. You can refuse to take the tests, but in that case you will be retained here at the colony until the *Polaris* returns."

"I'll take the test, sir," said Tom.

"So will we," said Astro and Thistle, and looked at each other

and grinned. They already were beginning to think of each other automatically. Strong and Tom noticed it and would have been happy about it, under other circumstances.

"How about you, Cadet Monroe?" asked Hugo.

"I will be glad to take the test, sir," he said slowly but with confidence.

"Very well," said Hugo, getting up. "Let's get over to the laboratory."

Still under guard, the four boys marched out of the small building to the laboratory.

"There's only one thing bothering me," said Astro quietly to Tom as they marched before the Marines. "If I did happen to mention it to someone accidentally, like a mechanic or somebody-you know, in conversation-how will they determine if I did it accidentally or on purpose?"

Tom looked up at him gravely. "I don't know, Astro," he said. "In any case, it won't look good on our records."

CHAPTER 11

"I spoke to no one outside the laboratory," Cadet Alex Monroe said in the hushed whisper of a person under hypnosis.

"No one at all?" pressed Major Hugo.

"I spoke to no one outside the laboratory," repeated Monroe.

Hugo sighed and looked at Strong. "There's your answer, Strong," he said. "Cadets Corbett, Thistle, and Astro-and now Monroe-are all clear of having spoken to anyone about their mission. If there was a security leak, it came from another source."

"Thank you, sir," said Strong gravely. "And now, if the major would be kind enough, I would like to undergo the test myself."

"You!" gasped Hugo.

"I am not immune from making a slip, sir. And I would have a clearer conscience if I knew that I had done as much as I demanded of the cadets."

Hugo nodded. "Very well, Strong. You're right, of course."

Monroe was awakened and sent out of the room. Strong sat down in the chair and watched the revolving, softly flashing light from a hypnoscope before him. In a matter of seconds he was completely helpless, and Major Hugo began questioning him. But after fifteen minutes the major was satisfied Strong had not slipped either and he woke Strong from his hypnotic sleep.

"You're clean, Strong," he announced. "If that ship on your tail has anything to do with your mission, the information they have certainly did not come from you or any of your crew on the *Polaris."*

"Thank you, sir," Strong said. "Now I would suggest that you get in contact with Space Academy and let Major Connel take all necessary measures to track down the leak."

"It may be just a case of jitters," young Lieutenant Morton suggested.

"Hardly, Lieutenant," said Hugo. "Remember, there isn't any other outpost on Alpha Centauri, so whoever was back there is hiding, or lying in wait for Strong to blast off again and pick up where they left off." He turned to Steve. "How about my sending an escort along with you-just in case?"

Strong considered this suggestion for a moment. Then he decided against it, relying on his judgment and the ability of the *Polaris* to stand off any direct attacks. Now that he was alerted to the possibility of danger, he would be wary. "No, thanks," he said. "We will just proceed as scheduled. But thank you for your cooperation and your time, sir."

"Then I'll have orders issued to give you blast-off clearance whenever you're ready," declared Hugo.

"Thank you, sir." Strong saluted and left the room as Hugo picked up the intercom and began snapping out orders to the traffic-control tower.

Outside, Steve Strong gathered the cadets together and briefed them. "I'm glad that none of you made a slip about the mission," he said seriously. "But that does not eliminate the possibility that we may have unwelcome company before we get back. I want a careful radar watch maintained at all times. Anything, and that *includes* space junk, is to be reported to me immediately."

"When do we blast off, sir?" asked Tom.

"As soon as we can get to the spaceport, Tom. We've already lost valuable time."

Without another word, the boys and Strong climbed into the jet car and it rocketed away from the building toward the spaceport.

The *Polaris* was ready for them when they arrived, and they were passed aboard by a tough Marine sergeant who made each of them show identification before he allowed them to enter the ship.

As soon as the hatch was closed and the cadets were at their stations, Tom received a blast-off clearance without delay from the alerted traffic-control tower.

"Stand by to raise ship!" bellowed Tom, after the preliminary steps to blast off had been taken. "Blast off minus five, four, three, two, one-*zero!"*

Against the comparatively light gravity of Alpha Centauri, the ship ripped away from the surface of the tropical planet and in a few seconds was lost to ground observers. Once again, Tom Corbett sat at the controls of the *Polaris,* heading into an unknown sector of the universe with the threat of danger riding in his wake through the trackless emptiness of deep, uncharted space!

* * *

"What's going on?" demanded Hank Lister, crowding behind Boris Willard as the latter watched the activity around the Connel City spaceport on their ship's long-range telescope.

When the two men had discovered the rocket scout blasting toward them from Connel City right after the *Polaris* had landed, Boris Willard had conceived a desperate plan.

Storing extra oxygen and synthetic foods aboard a jet boat, Willard and Lister set the controls of their bulky freighter at a thirty degree up-plane angle and sent it, unmanned, in a million-mile orbit, while they blasted off in the jet boat. Figuring the ship Strong had sent out would be looking for a large spaceship, Willard hoped the Solar Guard scout's radar would show their jet boat up as a slight blip, if discovered at all-possibly not larger than a piece of space junk-and be ignored.

Then, if their ship was discovered, they could sneak into Connel City later and claim that they had to abandon ship because of some emergency.

It was a desperate plan-and it had worked. Their ship, *Traveler,* had completed the million-mile orbit without mishap, and they had boarded her again.

Now, from a safe distance off Alpha Centauri, confident that they had eluded the Solar Guard, they watched the *Polaris* blast off and set course for Sirius. "All right," Willard said, turning to Lister. "Get below and stand by to start blasting. We'll have to bypass Alpha Centauri and pick up the *Polaris* on the other side." He snapped off the long-range telescanner and turned to the control board.

Lister hesitated. "I don't like this, Boris," he said. "We're taking all the chances and Wilson is sitting back there on Earth, and he's going to get as much out of this as we do."

Willard snarled, "Have you forgotten the recording he made of our conversation that night? We haven't any choice. Now get below. We'll have to really push this wagon to make up for the time lost in detouring around Alpha."

"If they're suspicious," suggested Lister, "how about getting in touch with Wilson and telling him? What's the use of our getting all the information out of that robot rocket and trying to make a claim to the uranium, if they get him in the meantime and he confesses? We might come back to Atom City with a claim and walk right into a trap. Have you thought about that?"

Willard's narrow brow creased in thought. "You're right," he agreed finally. "I'll contact him and tell him what's up. Meantime, get below and pour on the neutrons! We're wasting time!"

When Lister went down to the power deck, Boris Willard turned to the long-range communicator Wilson had built for them and installed in the ship. There was only one frequency and it led directly to a hidden receiver in Wilson's suburban home outside Atom City.

Quickly Willard contacted Wilson and told him of the efforts made by Strong to check on them. Wilson's voice was clear, though he was light years away. "You acted smartly," he said smoothly. "Just watch your step and don't worry about me. There's no possible way for Connel to connect me with you. Just carry on with the plan and make sure you go directly to Alpha Proxima. After you destroy the *Polaris,* contact me and let me know how things are going."

"Check!" Willard said. "But watch your step with Connel. He's plenty tough."

"You watch yours with Strong. In many ways he's just as tough. End transmission!"

"End transmission!" said Willard. He snapped off the communicator and turned to the intercom. "Ready to go, Lister?"

"Ready!"

"Pour it on!" roared the burly spaceman. The powerful freighter shot ahead in space on a course that would take them deeper into space on the trail of the *Polaris.*

* * *

Unaware that the *Polaris* was being followed by a determined pair of criminals, T. J. Thistle sat on the radar bridge amusing himself with an audiograph recording of a space adventure. In three hours they would be cutting back from hyperdrive to standard space speed for their approach to Sirius. The young cadet was bored. He stopped the audiograph, got up, stretched, and yawned. He flipped the switch to the intercom. "Say, Tom," he called, "any sign of the robot rocket around the satellite?"

"I don't know. Monroe is aft fiddling around with that complicated gear of his," replied Tom.

"Attention! Attention! All hands lay to on the control deck on the double!" Strong's voice interrupted the conversation between Tom and T.J.

Moving quickly, T.J. jammed the radar-scanner switch over to automatic and leaped for the ladder leading to the control deck. He reached there just as Astro, Strong, and Monroe arrived from below. Strong's face was grave with concern.

"What is it, sir?" asked Tom.

"What's our estimated time of arrival, Corbett?" asked Strong.

"About three more hours on hyperdrive and then about an hour on standard space speed should bring us right on top of Thor, sir," replied Tom with a glance at T.J. who nodded in agreement. "Is there something wrong, sir?"

"We should have picked up the satellite and the robot rocket on radar eight hours ago," said Strong quietly. "We picked up the satellite all right, but there is no sign of the rocket."

"And we're in the right position," said Monroe, glancing at T.J., "unless Thistle's astrogation is off."

"My astrogation is never off!" snapped the small cadet.

"Dampen your tubes, both of you!" snapped Strong. "No one is accusing anyone of anything. The plain and simple truth is that the rocket is lost. And we've got to find it."

"Unless Monroe's calculations are off, sir," said T.J., unable to resist a last bit of needling.

Monroe reddened. "Captain Strong checked my figures himself," he said angrily.

Strong nodded in agreement. He walked to the rear of the control deck and began checking the astrogation chart against a scale drawing of Thor, the satellite of Sirius. "The robot rocket has a gyroscope inside," he declared. "When it was fired from Titan, the distance from Titan to Thor was measured within a thousand miles, and the speed and course of the robot set accordingly. The gyroscope was timed to take over the control of the rocket at the precise point when the rocket entered the gravitational pull of Thor, and then send the robot into a holding orbit about five hundred miles above the surface of the satellite."

Strong paused and stared at them. "The radar scanner Monroe has set up on the afterdeck was especially designed to pick up a signal being sent out from the robot within a radius of one hundred thousand miles. We are well within that radius now and should have picked up the signal long ago. We haven't. There are two possibilities. One: that the robot ran out of fuel and has fallen into

the satellite -or, the gyroscope failed to function properly and the robot is now speeding deeper and deeper into space."

"What are we going to do about it, sir?" asked Tom.

Strong replied, "I want you and Astro to go below and begin fitting out two jet boats immediately for an extensive search of the atmosphere of Thor and for a detailed survey of the surface of Thor itself. The recording data may be ruined. The rocket may not have done its job at all, because of instrument failure. But the only way we can be sure is to find that rocket! And if we have to stay out here for six months, that's exactly what we are going to do!"

CHAPTER 12

"Blast off!"

At Strong's order Tom sent the small space craft hurtling out of the *Polaris.* The jet boat containing T.J. and Astro rocketed out after him within a few minutes.

Tom established contact with Strong over the intercom and headed the speedy vessel in the direction of Thor. The satellite loomed ahead of them, orbiting slowly around the twin stars of Sirius, double suns set far away against the cold, black void of space.

"Are you sure all the gear and instruments are antiradiated?" asked Tom, glancing at Monroe seated beside him.

"Everything has been made positive to U-235," Monroe nodded. "Only material that has a negative gamma count can be affected by uranium. We can maneuver without worrying about any disturbances in our instruments."

Tom nodded. "That's good. I plan to orbit through the atmosphere at an altitude of about four hundred and fifty miles above the surface of Thor and then spiral around, getting lower and lower.

"That should do it," agreed Monroe a little tightly. Tom looked at him. "Are you all right, Alex?" he asked.

"Yes. I'm all right."

"I'll contact Astro and tell him to hold at four hundred and seventy-five miles and spiral in from that altitude. That way we'll be covering the area at twenty-five-mile intervals."

Tom switched on the communicator and relayed the information to Astro and T.J. in the second jet boat.

"Polaris to Corbett and Astro, *Polaris* to Corbett and Astro, come in." Strong's voice suddenly filled the tiny compartment in the jet boat and Tom flipped on the communicator to reply.

"Go ahead, sir," said Tom.

From somewhere in space, Astro's heavy voice was heard. "Standing by, sir."

"I'm taking the *Polaris* on a wide orbit around the satellite to see what I can find," Strong announced. "Are you in the atmosphere yet?"

"Just entering it now, sir," said Tom.

"What does it look like? Oxygen? Methane ammonia?"

"It's ammonia all right, sir," replied Tom. "And from the readings we are getting on the sensitizer, I would say it's about the heaviest concentration I've ever come across."

"How about you, Astro?" asked Strong.

"Same here, sir. I would say it's about seven-point density," replied the burly cadet from his jet boat.

"All right," said Strong. "Your space suits can withstand methane ammonia up to a density of twelve. That's a pretty big margin of safety. But be careful of the temperature. Don't get out of the jet boat and wander around if it's more than two hundred degrees below zero."

"Yes, sir," replied Tom calmly.

"Do you have radiation counters with you?" asked Strong.

"Yes, sir," said Tom. "Three of them, in fact. Two portables and the large X-4-Z Super-Geiger."

From the *Polaris,* Strong kept checking the cadets on gear as Tom drew closer and closer to the swirling cloudy mist of methane ammonia atmosphere.

"All right, Corbett," said Strong finally. "I'm blasting now, but I'll stay within communicator range. Don't play it heroic and not call me if you have any problems."

"Don't worry, sir," said Tom. "I don't like this ammoniated soup at all."

As Tom's jet boat dropped lower and lower into the white swirling mists over the satellite, Monroe kept a careful check on the radioactivity count.

"How's it going, Alex?" asked Tom.

"Going up all the time," said the cadet. "There must be enough uranium ore down there to supply the Solar Guard with reactant for the next century."

"You think such a heavy concentration of uranium is possible? It couldn't be anything else, could it?" asked Tom.

"Corbett," said Monroe grimly, "from the readings on this Super-Geiger, it can be only one thing."

"Well, for Pete's sake, Monroe, spill it!" said Tom. "What is it?"

"I'll tell you later! Contact Astro and Thistle! Tell them to blast out of here. We're in danger!"

"Are you kidding?" asked Tom. "How could that be?"

"Don't argue with me, Corbett! Get out of here!"

Tom picked up the mike and began calling desperately. "Corbett to Astro! Come in, Astro!" As he talked, he advanced the acceleration throttle around and pulled back on the control lever sharply. The tiny vessel shot straight up out of the swirling ammonia mist.

"Astro, check in! Get out of here!" Tom continued to call. "Monroe has discovered something dangerous!"

There was no answer. Only static crackles over the

compartment loud-speaker. Tom's mind worked furiously as the ship climbed out of the methane ammonia atmosphere and into the clear blue of space. He cut the acceleration and began a circling orbit above the satellite.

"Come in, Astro! This is Tom. Come in, T.J. Check in!"

There was still no answer.

Tom flipped the switch to the long-range band and began calling again. "Tom Corbett to Captain Strong on the *Polaris,* Corbett to the *Polaris*-"

"What is it, Tom?" answered Strong's reassuring voice.

"It's Astro, sir. Monroe discovered something dangerous. I don't know what. But I called Astro to tell im to blast out of there and got no answer!"

"By the rings of Saturn!" cried Strong. "And I'm at least two hours away from you." His voice was bitter and Tom could hear the sudden worry in the young skipper's voice.

"Stand by. Don't go into that atmosphere again until I get there," said Strong.

"But, sir," protested Tom, "what about Astro and T.J.?"

"It will be better to wait and search for them with the *Polaris,"* declared Strong. "That's an order, Corbett! Stand by until I get there! End transmission!"

Tom looked down into the thick clouds of ammonia surrounding Thor and shook his head. Then he turned to Monroe. "What did you discover down there?" he demanded.

Alex Monroe's face was white. "I still can't believe my eyes."

"What is it?" demanded Tom, and pulled the Super-Geiger out of Monroe's hand to read the indicator himself. He stared unbelievingly at the delicate radiation counter. The indicator dial had swung past the point of U-238.07 and was centering itself in the red

area marked U-235!

"Why-it's-it's reacting!" Tom stammered, looking at Monroe with horror. "Why, that's on the verge of blowing-"

"No," said Monroe calmly. "I don't think it's going to blow up! But a great mass of Thor's surface is in a state of fissionable agitation. It may recede-or it may build."

"But how can that be!" exclaimed Tom. "U-238.07 is the ore from which U-235 is extracted. It has to be refined!"

Monroe shook his head. "That's one of the things that's been bothering Professor Sykes and Dr. Dale. Ordinary deposits of U-238.07 would not cause the reaction and disturbances we've been getting from this area of space. But through some freak process of nature, the U-238.07 on Thor has been processed and there are huge masses of U-235-pure reactant!"

"But Astro and T.J. are down there!" Tom exclaimed. "They'll be burned alive by the radiation!"

"There's a chance, Tom," said Monroe. "Remember, the jet boat has been made positive to U-235. It will protect them. The thing I'm worried about is-" Monroe paused.

Tom looked at him. "Is what?" he demanded.

"Whether the ship will remain airtight under the pressure of the methane ammonia atmosphere," Monroe continued reluctantly. "It's heavier than anything we've ever encountered before-even on Jupiter-or Saturn. If they lose oxygen-"

"I'm going down," said Tom grimly. "Are you with me?"

Monroe did not answer. He stared straight ahead. Beads of sweat broke out on his forehead. "I can't answer you, Corbett. I can't say I will go with you. I'm too scared."

"I'm scared, too," said Tom.

"But if I say no, then I'll never be able to live with myself again. I

can't make the decision. You'll have to make it for me."

"Just tell me one thing. Do we stand a chance if we go down there?"

Monroe nodded after a moment and gulped. "I think so. Now that we know what to expect, we can be prepared. We can get into our space suits now, just in case we spring a leak."

Tom nodded. "Then get into your suit. Down we go."

A few minutes later the boys were encased in the bulky, lead-lined space suits they had brought with them. They checked their ship thoroughly for weak points before settling back in their bucket seats, Monroe holding the Super-Geiger on his lap and the portable counters slung over their shoulders.

"You'll have to watch the atmosphere pressure, Tom," said Monroe. "I'll have all I can do to handle this Geiger."

"Right," replied Tom. "You ready now?"

"Wait!" exclaimed Monroe. "What do we do when we get down there?"

"We get out and start looking," said Tom grimly. "O.K. Buckle on your helmet and adjust the valves, so all we have to do is turn it on in case the boat springs a leak."

Monroe nodded and adjusted Tom's valve, while Tom leaned over and adjusted Monroe's.

"All set?" Tom asked.

"All set!" replied Monroe.

Tom eased the accelerator lever forward and sent the tiny vessel nosing down into the wispy, undulating gas cloud. Just before they reached the first layers of the atmosphere, Tom spoke to Monroe without looking at him. "It takes a brave man to do what you're doing, Alex. And I want you to know I couldn't think more of you. You're risking your neck for a couple of guys that have given

you a pretty hard time."

"I deserved it," said Monroe.

"Why did you deserve it?" asked Tom softly, guiding the tiny boat into the mists carefully. He flipped on the switch of the communicator to warm it up.

"I was scared, Tom," Monroe admitted. "More scared than at any other time in my life."

"Scared of what?" asked Tom.

"Of you and Astro and Thistle's reputation. You have no idea how I looked up to you and the others. You see, I wanted to be a radarman but flunked out psychologically. I've since overcome the difficulty. But, in the meantime, I had become interested in lab work and it was too late to join another unit. So I concentrated on succeeding as an individual. When I came aboard the *Polaris* the first time, I thought you guys wouldn't like me because I was a Brain, so I decided to beat you to the punch."

Tom listened to the confession of the cadet, all the while searching and probing the mists for a sign of the missing jet boat. "Alex, you made one mistake," he said. "Not of being afraid of us-I guess, under the circumstances, I would have been afraid too. But your mistake was in not bothering to find out what we were like before you decided you didn't like us."

"I know that now," said Monroe grimly. "And if I ever get the chance, I'm going to tell Thistle and Astro just what I've told you."

Tom grinned. "You won't have to say a word, Alex. When they learn that you came down into this soup looking for them, and bucking an order of Captain Strong's to boot, that's all they'll need to know."

"Thanks, Tom," said Monroe with a grin. He managed to raise his thickly padded hand and the two cadets gripped hands.

"All right, let's concentrate on finding those two jokers before they get their whiskers singed with a home-grown reaction mass!"

"Altitude one hundred miles and closing in fast," said Monroe in a firm voice. "Radiation count up to critical mass."

Tom picked up the mike of the communicator and began calling hesitantly. "Corbett to Astro! Come in, Astro. Corbett on jet boat one to Astro on jet boat two, come in, Astro-"

He waited. Only static crackled over the loudspeaker.

"Here we go!" he said. "Right down to the surface!"

He pressed the acceleration lever forward and the small craft shot straight down into the thick, boiling clouds of methane ammonia gas shrouding a freak of nature, a wildcatting reaction mass big enough to blow an entire planet into space dust.

CHAPTER 13

"Do you hear what I hear?" Boris Willard exclaimed.

"Just the break we need!" chortled Lister.

"With his four cadets down in that ammonia soup, Strong doesn't stand a chance." Willard snapped off the radar screen where the images of the *Polaris* and the two jet boats had been revealed. The conversations between Tom and Strong had given the two criminals sudden hope of an advantage.

"But how are we going to get past Strong's atomic war heads?" asked Lister with a worried frown on his face. "He's suspicious already, and if he sees us come alongside in the freighter, he'll open fire without stopping to ask questions."

"We're not going alongside in the freighter," replied Willard. "We're going to pull a fast one!"

"How?"

"We're going to fly the *Traveler* into that soup and hide her just below the surface of the atmosphere."

"What good will that do?" asked Lister.

"Let me finish," persisted Willard. "Well leave the *Traveler* and take off in a jet boat. We'll blast up alongside the *Polaris* and Strong will think we're one of the cadet crews. All jet boats look alike on a radar scanner. He takes us aboard-and we take him! We knock off Strong and spend our time looking for the projectile without any worries."

Lister's face broke out into a grin. "And the cadets are left in the soup!"

"Right. Two of them are already done for, anyhow. You heard what Corbett said. Come on. We haven't any time to lose! We've got

to get inside that ammonia atmosphere before Strong shows up in the *Polaris!"*

Quickly the two men turned to the task of maneuvering the bulky freighter into the swirling mist of the deadly ammonia gases.

* * *

Meanwhile, aboard the *Polaris,* Captain Strong sat before the control board on the great cruiser gripping the acceleration lever tightly, holding it at full forward thrust. His face set in a grim expression of determination, he flew the *Polaris* with every trick at his command. He had more than an hour to go-and no report from Corbett.

He flipped on the communicator for the tenth time. *"Polaris* to Corbett," he called. "Come in, Tom. Any sign of T.J. or Astro?"

The nerve-rattling noise of static was all the answer he got.

Strong clenched his teeth in frustration. He should have known that Tom would not stand by waiting for him to return while his friends were in danger.

Ahead, he could see the round ball of white that made the satellite Thor different from the other satellites orbiting around Sirius. Angry and a little frightened at the thought of losing the cadets to the suffocating, deadly gases, Strong was unaware that the space freighter *Traveler* had nosed its way into the upper layers of the ammonia atmosphere around Thor and lay in wait for him. Throughout the entire voyage from Alpha Centauri the young captain had kept a close and careful check of the space astern, anticipating the reappearance of the strange ship. But he had seen nothing to arouse further suspicions, and now, facing another danger in the atmosphere of Thor, he unknowingly blasted straight toward the cunning trap laid by Willard and Lister.

Again Strong tried to reach Tom over the communicator but there was no answer except his own voice echoing hollowly on the control deck.

* * *

"Astro!"

T. J. Thistle's voice was but a thin squeak over the communicator inside his space helmet. "Astro, come in! Where are you?"

"Right beside you, T.J.," replied Astro over the same communication system. "The gases and the radioactivity are affecting the electric circuits in our suits, making the sound fade once in a while."

"I can't see a thing!" said T.J. "And I'm scared to move away from the ship."

"Don't," replied Astro, his voice sounding distant over the headset. "The best thing to do is stay where we are and wait for help to come."

"What do you think happened?" asked T.J. "All of a sudden the instruments started going crazy, and the next thing I knew you were strapping on my helmet."

Astro reached out his hand and touched the small cadet's shoulder. "There's a strange phenomenon here, T.J.," said the big cadet. "There's only one thing that could affect a Super-Geiger. And that's a pure fissionable element."

"U-235!" gasped T.J.

"Right," said Astro grimly. "It's a lucky thing for us we've got lead-lined space suits; otherwise, the reaction mass on this satellite would knock out our electrical systems completely. And in this subzero atmosphere we wouldn't last five seconds."

Thistle began feeling his way around the side of the jet boat. He could not see anything but the vaguest hint of movement in front of him, and that movement was the agitation of the ammonia gases clinging to the surface of the satellite. He felt the edge of the hatch and he ran his hands inside to the bucket seat, reaching for the Super-Geiger. "See if you can pick this thing up, Astro," he said.

"I've got an idea."

"What?" asked Astro, coming up alongside of him. Feeling his way around, he lifted the awkward instrument out of the jet boat.

"Hold it so I can get close to it," said T.J.

The big Venusian held the Super-Geiger close to his chest and T.J. moved in closer, until his helmet touched the instrument. Vaguely, by straining his eyes, he could barely make out the face of the indicator. The needle was swung sharply over to the extreme right side.

"We got to get out of here!" T.J. cried over the intercom. "This place is so hot, it's like standing around an open bucket of reaction mass in the power deck. It'll penetrate our suits in a little while."

"But we can't leave the jet boat," said Astro. "If they come looking for us, they stand a better chance of picking up a hunk of metal as big as the jet boat on their radar scanner than us."

"We've got to move, I tell you!" shouted T.J. over the fading communication circuit. "In ten minutes we'll be a couple of fried eggs!"

"But where will we go?"

"Any place!" shouted T.J. "This whole satellite can't be a hot seat!"

Behind the protective wall of the thin, lead-coated bubble of his helmet, Astro closed his eyes and tried to shake off the idea that a whole moon could be a charged, boiling mass. "All right," he said finally. "But we have to leave a trail so that if they do find the jet boat, they will be able to track us down."

"What kind of trail?" asked Thistle.

"I've got it!" Astro turned back to the jet boat and ripped open the hood over the small power unit. Working from memory, he loosened the casing around various small motors and pulled out coils of copper wire. In a few minutes he had them all unwound and,

attaching one end of the wire to the steering column of the jet boat, he began to walk away into the nothingness of the swirling mist. T.J. followed him, carrying the Super-Geiger and holding on to Astro's belt.

They walked silently for perhaps a half hour, but the radiation never varied. Step by step, the boys felt their way along, sliding their thick-soled space boots across the hard-frozen surface of the satellite and uncoiling the copper wire. But slowly and inexorably, a rising tide of fear began to engulf them.

* * *

"What's on your side?" asked Tom, turning to look at Monroe. "There isn't anything on my side but ammonia mist and more ammonia mist."

"Nothing over here, either," replied Monroe. He checked the Super-Geiger on his lap. "We've evidently left the area of the critical mass. It must be a pocket of some kind."

"And we've got to find Astro and T.J. in this stuff," said Tom, shaking his head. "Well, what are your suggestions, Alex?"

"What else can we do but land and start searching?"

"How about sticking with the jet boat? Once we leave this kiddy car, we might never be able to find it again."

"That's true," said Alex thoughtfully. "But we're so close to the surface now, we're taking a chance of hitting something."

"I know," said Tom. "But what happens if we find Astro and T.J. and then can't get back to the jet boat?"

"Anything you say," said Alex firmly. "You've had more experience with a jet boat than I have. If we could move over the surface at a very low speed, we might avoid being badly damaged if we do hit anything."

"That's just what I was thinking," said Tom, then suddenly pointed up and behind them. "Alex! Look!" he exclaimed.

Monroe turned and looked up through the clear Titan crystal hood of the small craft. Above and behind them was a distinct and clear opening in the billowing mist.

"By the craters of Luna!" cried Tom. "I've got it!"

"I don't understand," said Monroe, staring at the cleared area. He could see as far as a hundred feet before the walls of the boiling ammonia gases came together again.

"The heat of the exhausts from the jet boat has burned a path in the ammonia!"

"But-but-" gasped Monroe, "how is it possible for it to remain. Heat dissipates-"

"Don't you see?" cried Tom, his hands already grabbing for the accelerating lever. "The heat can't go any place! It can't dissipate itself because the methane ammonia is so cold, it forms a trap. The exhaust simply burns away the cold mists and it takes a certain amount of time before the cold can overcome the heat and close in again!"

Monroe's face broke out into a grin. "Then all we do is keep blasting while we're on the ground, and we'll be able to see!"

"Right," said Tom.

"Let's go!" urged Monroe. "But make it snappy! The Geiger is beginning to act up."

Tom glanced at the delicate instrument on Monroe's lap. The tiny ship had already begun to move, and with it the indicator on the Super-Geiger began to indicate they were heading straight for an intense, near-critical mass.

Tom maneuvered the vessel around the surface of the satellite carefully, going in different directions, first left and then right, to test the Super-Geiger.

Straight ahead of them lay the critical area.

"You know something, Alex," Tom said thoughtfully, as he flew the boat slowly and carefully. "Astro and T.J. were roughly in the same position we were over the satellite when we lost contact with them. If that's the case, then the reason our instruments didn't go crazy the second time we came down- this time-was because we missed that area! And Astro and T.J. must have been right on top of it!"

"Then you think they might be inside now?" asked Monroe.

"Exactly!" said Tom. "So we're going to explore the whole area."

"If anyone had ever told me I would be riding a jet boat, exploring the heart of a natural atom bomb, I'd have called them crazy! Let's go!"

Tom shoved the acceleration lever forward and sent the tiny boat rocketing into the hot area, the exhausts burning away the mists around them, revealing the bleak, desolate, uninviting landscape of Thor.

CHAPTER 14

"Check in, Tom! Check in!" Strong's voice was hoarse as he sent his urgent call into the treacherous atmosphere of Thor. "Astro, T.J., Tom, Monroe! Check in!"

The *Polaris* hovered just above the outer layers of the methane ammonia atmosphere, ready to plunge toward the surface of the satellite should the call be acknowledged. Strong glanced up through the viewport and caught sight of Sirius. Like an evil omen, the double sun cast its white-hot heat over a wide arc of space. The sight of the white dwarfs filled Strong with sudden rage. "You can't have them!" he muttered between clenched teeth. "I'll get them back!"

Strong turned away from the viewport and adjusted his controls, preparing to send the ship below the murky surface of Thor's atmosphere.

"Here goes nothing!" he said under his breath, and pressed forward gently on the acceleration lever. The ship nosed down toward the swirling mists.

He was approaching Thor in a slow, steady orbit, scanning the mists carefully when a blip suddenly appeared on the radar screen. Hoping against hope, Strong slammed on the braking rockets and brought the big ship to a standstill in space. He checked the scanner carefully and watched the tiny space vessel come straight forward, blasting smoothly toward the *Polaris.* He almost shouted with joy as he recognized the outline of a jet boat.

Strong flipped the switch to open the catapult deck for the jet boat to land, then raced below to wait for the cadets in the air lock.

A moment later he heard the boat slip into the open hatch and come to a stuttering, vibrating halt.

Strong immediately closed the hatch and raised the oxygen content of the chamber to that of the rest of the ship. The equalizer

signal had scarcely started ringing when he yanked open the air-lock portal and raced over to the tiny space craft.

Strong wrenched the hatch open. "Boys, what happened-" He stopped suddenly, eyes wide with shock.

"Just put your hands up, Strong, and back up slowly," said Boris Willard, holding a paralo-ray gun steady in his big hand while Lister scrambled out of the ship to grab Strong's arms and pin them in back of him.

"Why, you-!" Strong grasped Lister's wrists and tried to pull him between himself and the ray gun, but Willard was prepared. Reaching out quickly, he brought the barrel of the ray gun down hard on Strong's head.

The Solar Guard captain slumped to the deck, unconscious.

"Well," said Willard, climbing out of the jet boat, "I guess we got ourselves a Solar Guard cruiser!" He grinned at Lister.

"We sure have!" replied his henchman. They grabbed Strong by the arms and pulled him off the boat deck into the air lock.

"Why don't we knock him off now and get it over with?" Lister grunted.

"We'd better hang on to him for a while," replied Willard. "We might need information later about the robot rocket. Let's just lock him in the brig now and take a look at this wagon."

"O.K.," said Lister, closing the air-lock portal. He turned back to look at Strong lying helplessly on the floor and grinned. "You know something, Boris? This is just about the easiest job we ever handled!"

"Yeah. And there's nothing that can stop us now!" Boris chortled.

"That's right!" Lister agreed. "Nobody knows we came out here and there ain't no way of proving we had anything to do with this!"

"Right. All we have to do now is find the projectile, get the information out of her, and blast out to Alpha Proxima in the *Traveler. We* crash the *Polaris* on Thor and when they come to investigate-" The burly spaceman shrugged and grinned. "Just another space tragedy!"

* * *

"That's as far as we can go with the wire," T.J. suddenly announced.

"Then this is where we sit and wait," said Astro over his helmet communicator. "Unless you want to walk around in a circle, using the wire as a plumb line and investigate further?"

"Let's keep moving," said T.J. "Just sitting still and looking at the landscape gives me the heebie-jeebies."

"What landscape?" growled Astro, pulling the wire tightly and moving to his left. T.J. trailed behind him, still holding on to his belt.

The two boys had moved about a hundred feet when Astro felt a tug at his waist. "What is it?" he asked, turning to face T.J.

But there was no answer. Astro could see the little cadet's lips moving, but there wasn't a sound from his helmet communicator, and he realized it had finally gone dead. Shrugging helplessly, Astro turned away again to resume the search, when he felt a more urgent tug at his waist. He looked at T.J. inquiringly and saw his unit mate waving his arms in the air and gesticulating wildly. After a moment of bewilderment, Astro finally understood T.J.'s frantic signals. T.J. was describing a jet boat landing!

Astro nodded, and still holding the wire, he moved in the direction T.J. had indicated, straining to see through the mists. He thought he saw something moving and plunged ahead faster. There was a tug at his belt, but he ignored it. If there was anything ahead of him, moving around in the mist, it could only be Tom and Monroe prowling the surface of the satellite in search of them.

Again there was a pull at his waist, an insistent tug that nearly

jerked him off his feet. He stopped and turned around. T.J. was gesturing wildly to their left. Astro let out a bellowing roar when he saw a shadowy outline that resembled a jet boat through an opening in the boiling mists.

He lunged ahead, dropping the wire connecting them to the jet boat and dragging T.J. behind him.

But he hadn't moved five feet before the clearing in the mist closed and he was again stranded in the deadly fog. But now he had lost contact with his own jet boat!

For the first time since their hazardous crash landing on the satellite, Astro was frightened.

"Move," he said to himself grimly. "Keep moving. There has to be a way out of this somewhere! Keep moving. Walk. Take another step-and then another -and another."

The big cadet strained his eyes for a sight of the jet boat. Now he wasn't sure that he really had seen it. But what else could it be? What else would be on this dead moon? "Keep going, Astro, keep looking!" he muttered to himself.

Suddenly he stopped. There it was again! A vague shadow in the mists. Quickly the mist dissolved and a red glow he knew could only come from the exhausts of a jet boat bore down on him.

"Get back!" he yelled, forgetting that T.J. could no longer hear him. "Get back!"

He lunged to one side so fast that he jerked the smaller cadet off his feet. Reaching down, he grabbed T.J. by the arms and pulled him up again, just managing to get T.J. out of the way of the jet boat's exhaust as it began to burn the thick methane ammonia gases around them, clearing the atmosphere.

In the jet boat, Tom and Monroe spotted the two space-suited figures immediately. "Astro!" yelled Tom over the communicator. "Astro! Are you all right?"

Without waiting for an answer, Tom cut the jets on the small

craft and opened the hatch of the cabin. He was out of the jet boat and at T.J. and Astro's side in two leaps. "Astro, are you O.K.?" he called frantically.

In the cleared atmosphere, Astro could see Tom's lips moving. He quickly patted the side of his helmet and shook his head, indicating his communicator was dead.

With Monroe helping T.J. back to the ship and Tom beside Astro, the four boys hurried to the small vessel before the thick swirling ammonia gases could close in on them again.

Once inside the jet boat, Tom turned on the oxygen purifier and in a moment the ammonia gas that had seeped into the ship was sucked out. When the gauge indicated the air supply was pure, they all took off their helmets.

"Wow!" bellowed Astro. "I've never been so glad to see anyone in my life!" He grabbed Tom by the hand and shook it heartily.

"Same here, buddy!" said T.J. happily to Monroe.

"Glad we found you, Thistle," replied Monroe shyly.

"Listen, fellows," announced Tom, "I want both of you to know that if it hadn't been for Alex, I couldn't have done it. He discovered what the trouble was before it hit our ship, so we blasted out in time."

Astro and T.J. turned to the quiet cadet and looked at him quizzically.

"And when it was time to come down in the soup again and risk our necks to save yours," added Tom, "he was ready to go." Astro and T.J. gripped Monroe's hand in unspoken friendship.

"Thanks, Alex," said Astro. "I guess I owe you an apology."

"Same here, Brain," said T.J. breezily. "But I never doubted you had the stuff from the very beginning."

"T.J.!" said Tom, wagging his finger in warning.

"Well, I didn't," said T.J. with a shrug of his shoulders. "I just didn't like the way he was using what he had, that's all."

They all laughed.

"No, I'm the one who owes you the apology, fellows," said Monroe quietly. "I tried to explain it to Tom before we came down into this stuff looking for you. I behaved the way I did because I was scared." He paused and then added bitterly, "I was a coward."

"Listen!" growled Astro. "If any space-gassing bum ever calls you a coward, send him around to see me. I'll straighten him out."

"O.K.! Now that we're one big happy family," said T.J., with a twinkle in his eyes, "how about blasting out of here? I've had enough of this place for the rest of my life!"

"No sooner said than done!" replied Tom with a smile. He pressed forward on the acceleration lever and the small craft began to rise slowly into the mists. Gathering speed, Tom rammed the lever down all the way and the jet boat shot straight up in a climb toward the surface of the atmosphere and the clear, lucid brilliance of outer space.

"Tom, look out!" yelled Astro a few minutes later.

The immense bulk of a spaceship loomed ahead. Tom jammed on the nose braking rockets of the tiny ship and cut hard to the right to avoid a deadly collision. But a crash was inevitable.

CHAPTER 15

There was the terrifying sound of wrenching metal as the jet boat flashed past the huge spaceship, scraping along the steel hull. The tiny boat lurched and corkscrewed into the mists of Thor, out of control.

As Tom fought the controls and brought the boat into level flight again, Astro spun around to look back at the ship that had loomed out of nowhere.

"Why, that's not the *Polaris!"* he gasped.

"Never mind that now!" Monroe shouted.

"Switch on the emergency purifier, quick! We're leaking!" T.J. grabbed the switch and turned up the oxygen pressure to keep pace with the ammonia gases seeping into the ship.

"Watch it!" Tom called. "Don't overload it!"

"It can't be helped," said Astro, checking the pump anxiously. "There are too many of us in here!" He turned to the other cadets. "Alex, you and T.J. put your helmets on!" he ordered. "Use the oxygen from your suit tanks."

"Right!" replied T.J.

Monroe and the little cadet hastily donned their helmets again. Astro sat up and grunted his satisfaction.

"Is it O.K.?" inquired Tom.

"Yeah," said Astro. "It's O.K."

"All right," Tom nodded after a quick check of the controls. "We're in good shape. Let's go back and find the *Polaris."*

"But it's not the *Polaris,* I tell you!" Astro protested.

"Who else could it be, you Venusian clunk?" inquired T.J. over the communicator in his fish-bowl helmet.

"I don't know *who* it could be, but I can tell you *what* it could be!" growled Astro.

"What is it?" asked T.J.

"That's a freighter," said Astro firmly. "Class J-7. Can carry cargo up to one thousand tons. She's equipped with hyperdrive and was designed for deep-space travel. Any more questions?"

Astro's voice rose as he finished the explanation, barking the last sentence into the communicator mike.

T.J. winced. "O.K., O.K., so you're a walking encyclopedia about spaceships," the tiny cadet replied. "But what's it doing out here, in the first place?"

"That," said Astro loftily, "you will have to wait and see."

"All right, you guys, knock it off," Tom said with a grin. "We're going to find out about that right now. The crew on that ship must've been using radar to probe through this soup. They probably saw us flash past."

"But who could they be?" Monroe asked. "There isn't supposed to be a ship out here."

"I know," Tom replied. "That's why we've got to play this smart. I'll make a slow pass at her while T.J. and you bail out and try to get aboard her. Then I'll go into some crazy gyro spins and turns, as if we were out of control, and we'll call for help. We won't mention you two."

"Good idea," commented Astro. "Only one thing wrong with it."

"You want to go, I suppose?" asked Tom.

"That's the only objection I've got," said Astro.

"Listen, you Venusian ape man," said T.J., "you're hard luck to

me. I had one experience with you already. I'll take the Brain along on this one, if you don't mind. He has a slight edge on you in intelligence."

"Thistle," growled Astro, "when I get you back on the *Polaris,* where I have room, I'm going to take you apart and find out what makes you tick!"

"What's the matter? Tired of being a big stupid ox? Want to find out how the other half lives, eh?"

Astro made a gurgling sound in his throat and grabbed for the little cadet, who laughed at him safely from inside his space suit. "Not even you can get to me now, dear boy," said Thistle.

During the good-natured banter, Tom had maneuvered the tiny ship alongside the freighter. Clamping his own helmet on and making certain that Astro was wearing his, he opened the hatch and called, "Stand by!"

Monroe and T.J. stood poised at the open hatch and waited for Tom's next order.

"Go!" yelled the curly-headed cadet.

The two cadets sprang out into space and shot toward the side of the freighter. Tom and Astro watched anxiously as they flipped over and brought their magnetic space boots to bear against the hull. As soon as their magnetic shoes touched the steel plates and they were safely aboard the ship, Tom gunned the boat, sending it into a wide variety of spins, turns, and dives.

Astro clung to his seat and grinned at Tom. "This is better than the roller coaster!" he yowled.

"Hey, Tom!" TJ.'s voice suddenly crackled over the communicator. "This is T.J., check in!"

"Go ahead, T.J.!" said Tom.

"We found the emergency hatch unlocked," T.J. answered. "We're inside the air lock now. No sign of anyone aboard so far."

"Be careful!" warned Tom. "They-whoever they are-might be waiting for you."

"Don't worry!"

Maneuvering carefully, Tom guided the tiny boat alongside the huge freighter and braked sharply beside the large jet boat's hatch.

"Watch it!" cried Astro as the hatch suddenly began to open.

Tom hesitated, undecided whether to fly the jet boat aboard the larger vessel or to blast off. The decision was made for him when he saw the familiar space-suited figure of T.J. standing inside, gesturing for him to come into the ship.

"It's O.K., Tom! She's deserted!" T.J. cried over the intercom.

"Deserted!" said Tom. He looked at Astro, puzzled, but the big cadet merely shrugged.

Flying the jet boat into the freighter, Tom and Astro waited until the outer hatch was closed and the air pressure was equalized. They were met by T.J. when they finally climbed out of the boat.

"Greetings, Cadets!" T.J. said casually. "Be my guests!"

"Where's Alex?" asked Tom.

"Right here!" said the cadet, coming toward them. "I just went through the entire ship. There isn't a soul aboard. But there was-and not too long ago, either."

"How do you figure that?" asked Astro.

"Somebody used the galley this morning. The heater is still warm and there is evidence that the ship had been occupied by two men, possibly three."

"But where are they now?" asked Tom. "And *who* are they?"

"Yeah, and why would they leave their ship orbiting in this soup-" began Astro, but was stopped by T.J. who snapped his

fingers suddenly.

"Wait a minute!" he cried. "Remember that security check we went through back on Alpha Centauri? Captain Strong thought someone had been tailing us! And he was right!"

"All right!" agreed Tom. "We've had a little company on the way out here. But where are they now?"

"They might have been looking for us!" said Astro grimly. "They could have seen us blast off in two jets and figure there was a good chance to find out-"

"Find out about what, bonehead?" snapped T.J. "Have you forgotten that no one knows about this project but us?"

"Take it easy, T.J.," said Tom. "They could have followed us in the jet boats to discover what it was we were after."

"If that's the case," said Alex, "they might be down there in the soup with their instruments knocked out by the U-235!"

"Could be," said Tom. "I think the first thing we'd better do is contact Captain Strong and find out what's cooking with him!"

The four boys climbed up to the control deck of the freighter, and while Tom took over the communicator, the others listened to his repeated calls for Captain Strong. After forty-five futile minutes, Tom spun around and faced them.

"Either Captain Strong is out of range of this set," he said, "or he's down there in that soup looking for us, with his communications unit knocked out." He stared at them. "Well, do we go down after him?"

"You mean," Astro began cautiously, "go down in this ship, don't you?"

"Why would we go down in a jet boat when we've got a spaceship?" demanded T.J.

"Think you can handle the power deck, Astro?" asked Tom.

"Silly boy!" boomed the cadet, greatly relieved. "Just gimme two minutes to check her out!" He turned and hurried off. Tom immediately began checking the control deck carefully while T.J. hurried up to the radar bridge.

"Get the scanner going and patch it in to the control-deck screen, T.J.," ordered Tom over the intercom.

"Right!" came the little cadet's reply.

Tom and Alex sat before the unfamiliar control panel and began checking out the different switches and circuits. It did not take the curly-haired cadet long to acquire a working knowledge of the ship's controls-about the same length of time it took Astro to report from the power deck that he was ready to go-and for T.J. to heat up his equipment on the radar bridge.

Tom opened the reactors and eased the ship into movement, its jets blasting smoothly.

"We're going down to scan the surface of the satellite," announced Tom. "Take it easy down there, Astro!" he warned the big cadet. "Don't give me too much power at once. And, T.J.-!"

"Yeah?"

"Scan through a fifty-mile range!"

"Check!" replied the cadet.

"All right. Here we go!" The heavy freighter responded easily to Tom's handling and began a downward flight through the mists of Thor.

For more than four hours the cadets searched the surface of the satellite, flying a crisscrossing pattern just above the surface of the frozen landscape. But there was no sign of either Captain Strong or the crew of the freighter. And now the importance of the problem of the freighter, and who had brought it out to Sirius began to diminish in the light of Captain Strong's mysterious absence.

Finally, Tom put the ship on one-quarter space speed, turned

her nose up slowly, and climbed out of the mists.

They were nearly free of the blanketing gases when a call from the radar bridge added still another worry to Tom's deep concern.

"I've found it! Tom, I've found the robot rocket!" T.J.'s voice shattered the tense silence on the freighter. "She's on the other side of Thor-and she's on a course that'll take her straight into the sun!"

CHAPTER 16

"Check in, Captain Strong! Check in!"

Tom's voice was hoarse from more than an hour of futile calling, but he continued doggedly. "Tom Corbett to Captain Strong aboard the *Polaris.* Check in, sir! We've found the robot rocket! Check in, Captain Strong!"

Finally, Tom put the mike down wearily and turned to Astro, T.J., and Alex who were gathered around the huge radar scanner, watching the robot rocket, clearly outlined on the screen.

"There's no doubt about it," declared Alex grimly. "She's falling into the sun." He glanced at the twin stars of Sirius. "And the presence of U-235 on the satellite accounts for the projectile not remaining in a fixed orbit around Thor."

Tom nodded in agreement. "The radioactivity of the U-235 must have affected the gyro controls on the robot and knocked it out of its fixed course. Now it's being pulled in by Sirius' gravity."

"All right," growled Astro. "What are we going to do about it?"

"Are you kidding?" exclaimed T.J. "What can we do?"

"Listen, squirt," said the big Venusian, "I looked around down below and found enough fuel to haul this wagon back and forth from Earth to Sirius three times over."

"So what?" barked T.J.

"So this!" said Astro, turning to Tom. "Listen, Tom, why don't we go down and pull that robot out ourselves?"

"We'll need more fuel than we have!" exclaimed Alex.

"We can blast back to the surface of Thor and take on as much reactant as we need! We have an unlimited supply down there!"

Tom hesitated. "This is a freighter," he said thoughtfully. "How do you know she'll take the beating?"

"She will," Astro asserted. "Take my word for it. You keep trying to raise the skipper, we'll try and work out a plan."

While Tom turned back to the control board, mike in hand, and resumed his seemingly futile attempt to raise the *Polaris,* T.J. began a hurried conference with his unit mates, computing the effect of Sirius' gravity on the robot rocket, and planning a method of storing more reactant aboard the ship.

They came to an agreement among themselves in a few minutes, and turned back to Tom.

"Tom," said Monroe, "we want you to listen to this idea."

"Wait a minute, fellows," said Tom, turning to face them. "I know that you've worked out a way we can go in and reclaim the robot and get out again. But I have to make the final decision. I can't take the responsibility of this kind of an operation. I'm not an officer in the Solar Guard. I'm just a cadet. I don't even hold higher rank than either of you-it's just a tradition that the pilot is the command cadet. If we do anything, we should look for Captain Strong. He may be in trouble."

"We understand that, Tom," said Astro, "and believe me, we're just as worried about him as you are. But it seems to us that he would be the first to tell us to carry out orders. And our orders are to recapture that rocket."

"Well-" Tom hesitated and then faced Astro directly. "Let's hear your plan," he said.

"Alex will explain most of it," Astro said.

Alex Monroe picked up a clipboard and began to sketch rapidly. He held it up for them to see. "The sun star Sirius has a gravity of about three times that of Earth," he said. Now, the robot rocket is still under power, otherwise it would have just fallen into the sun and that would have been the end of it. It's holding a spiral orbit around

Sirius, like this." He drew a double sun star, then drew a spiral coiling line around that. "Each complete turn of the rocket around the sun brings it fifteen thousand miles further into the sun's grip."

Tom interrupted with a question. "You've figured out the behavior of the rocket, but have you figured out what will happen when you take a ship the size of this one down into the gravity pull of the sun?"

"I figure this ship weighs about three thousand tons, and we can get rid of about four hundred by stripping some of the cargo-handling gear in the holds," said Astro enthusiastically. "Now, by going down to the satellite and taking on as much reactant as there is room for-and I think we can safely store about a ton of that stuff down below-we can go far enough into the sun's grip to meet the robot rocket as it is coming around in its last spiral orbit."

"That's figuring it pretty close, isn't it?" asked Tom.

"Not at all," replied T.J. "Since we have planned a fifty-percent margin of safety."

"That could be more than enough," agreed Tom thoughtfully, studying the figures Alex gave him. "In other words, you figure that by the time the robot comes around on its last orbit, before falling into the sun, we can blast down and get it, and get out again, with a safety margin of fifty percent."

"Exactly!" said Alex. "And don't forget, we won't necessarily have to bring out the whole robot. We can go aboard and in fifteen minutes I can strip the important data from the recording machines. Then we just blast out of there and let the robot fall."

Tom studied the figures closely and checked them himself on the computer. He turned back to the three cadets. "O.K.," he said simply. "We go after her."

"Yeow!" roared Astro, and dashed down below to the power deck.

Alex and T.J. grinned at each other and began more detailed

calculations, working out the intersecting courses of the robot rocket and the space freighter.

Within an hour Astro had managed to strip the holds of their heaviest cargo-handling gear: winches, booms, and blocks, stages and cleats, hauling it all up to the main loading hatch and dumping it over the side, letting it drift into space. When Astro was finished stripping the ship of the unnecessary gear, Tom helped the big cadet build temporary storage chambers for the U-235 they planned to take aboard. Using boron steel rods to control the mass, Astro laid them carefully in the chambers, and finally completed an area that would be safe and serviceable for the large amount of pure fissionable material they planned to take aboard. And while Tom and Astro worked to convert the hold, T.J. and Alex Monroe sweated out the innumerable calculations necessary to break the grip of the sun's gravity on the robot rocket.

At frequent intervals Tom hurried to the control deck to send out a desperate call to Captain Strong. But there was no answering sound over the communicator but the crackle of static from the radioactive ground on Thor.

In less than eight hours, the four cadets had accomplished a job that would have taken at least three days under normal circumstances. The *Traveler* was stripped of everything that could be pushed over the side to reduce weight. The cadets gathered on the control deck and made a last, thorough check of the ship before taking the first step: blasting back into the ammonia mists to load the U-235

Geared for speed and power, the *Traveler* was nothing more than a hollow hull with more power than had ever been envisioned for a ship her size, and Tom began the delicate task of re-entering the methane ammonia atmosphere. After an hour of cautious prying, he eased the ship to the surface of the satellite in a belly landing to facilitate loading the U-235.

Then, gathering on the bridge of the ship, they donned their heavy, lead-lined space suits, checked each other carefully for perfect protection against the deadly radioactive rays of the pure uranium, and left the ship.

Using only lead buckets, Tom, T.J., and Alex worked tirelessly, filling the containers with pure U-235 and struggling with them back to the ship, where Astro, his huge shoulders straining inside his protective space suit, deposited the reactant in the hastily constructed chamber, watching it every minute, alert for any indication that the mass was wildcatting. Driving the boron steel rods into the slowly enlarging pile, Astro worked the raw energy not unlike a mill hand stirring molten steel in the furnace of a mill.

For more than sixteen hours the cadets labored over the task of hauling the heavy element aboard the ship, until finally the last lead-lined bucket of U-235 had been deposited in the chamber. Astro demanded that one of them watch the pile while he made the necessary adjustment for feeding the energy to the atomic-driven motors. Once they thought the ship was ready for blast-off, but just in time Astro discovered that the cooling pumps were not able to take care of the overabundance of power. Working feverishly, the four boys converted spare parts from all over the ship into a second set of pumps. At last the extra set was finished and Tom, T.J., Alex, and Astro slumped to the deck before the new pumps on the power deck, exhausted.

Suddenly Tom began to laugh. "It's those crazy-looking pumps," he said. "I never saw anything so funny-looking in my life!"

"Can you think of a better use for a bedspring," said Astro proudly, "than for shock absorbers under the casings?"

Tom, T.J., and Alex admitted that they could not, and wearily they climbed to their blast-off stations and started a series of dry runs to make sure they could maintain proper control of the ship. After half a dozen run-throughs Tom snapped on the communicator switch and called into the mike: "Stand by to raise ship!"

"Radar deck, aye!" reported T.J. from the radar bridge.

"Power deck, aye!" bellowed Astro from the power deck.

"Switch on take-off gyros!" Tom roared. "Energize the cooling pumps!"

"Pumps in operation!" replied Astro.

"Feed reactant at D-9 rate! Stand by to raise ship!"

Crossing his fingers, the curly-haired cadet began the count: "Blast off minus five, four, three, two, one-*zero!"*

The ship trembled, and then raised itself easily from the surface of Thor to shoot up straight through the mists toward open space and the robot rocket.

But even as he flew the ship, Tom was troubled. He thought of Captain Strong. The question of whether he had made the right decision-whether to continue to search for Captain Strong or go after the robot rocket-tugged insistently at his brain. He clenched his teeth. "When you're a spaceman, you follow orders," he said to himself. "The orders were to reclaim the information in the rocket. And that's just what we're going to do."

He shoved the acceleration lever over to full space speed, and the freighter rocketed toward the double sun star, Sirius.

CHAPTER 17

"They're going after it!" cried Boris Willard.

The burly spaceman spun away from the radar scanner on the *Polaris* and clapped his hands with glee. "I told you to just sit tight and wait for the cadets to make the first move. As soon as they saw the robot rocket falling into the sun, they went blasting after it like a kid after candy!"

Hank Lister grinned and clapped the shorter spaceman on the back. "I got to hand it to you, Willard," he said. "You sure had it all figured out."

"Now we just wait for them to get back with the robot. Then we move up alongside of them with the *Polaris'* six-inch atomic blasters ready to blow them out of space and take over the records. And if they don't make it"-he shrugged-"it's four cadets that get burned up in Sirius instead of us!" He spun around and glared at Strong tied up in the control-deck acceleration chair. "Well, Strong, what do you think of the idea? Slick, huh?"

"Willard," said Strong through clenched teeth, "if anything happens to those boys, I'll see to it that you and your accomplice get sent to the Prison Rock for the rest of your lives!"

"Stow that gaff, Strong. You ain't going to do nothing." Boris got up and hefted his trousers, walking toward Strong. "We just outsmarted you, that's all."

"If you had let me talk to Corbett, I could have stopped them!" snapped Strong.

"Who wanted to stop them?" chortled Willard. "If they didn't go after the robot rocket, we would have had to do it. And I prefer risking their necks instead of ours."

"But it's murder!" shouted Strong. "That freighter can't stand up under that kind of a beating!"

"You might be surprised, Strong," replied Willard. "Our old ship is in pretty good condition. We just had her overhauled before we came out here."

"Let him alone," said Lister. "Come on. Let's take a look at what those monkeys are doing." He stared at the screen and then turned to the young captain. "I sure got to hand it to you, Strong," he said, "you make some good spacemen out of those young punks at the Academy. Corbett is handling that freighter like he was born on her."

"There ain't but one thing bothering me," said Boris Willard, scratching his three-day growth of beard. "If those kids are so smart, how come they take a chance of going into the gravity field of Sirius after the rocket with just enough fuel to get home on?"

Lister shook his head. "There was plenty of fuel aboard, enough for several trips out to Sirius and back to Earth again," he said. "But there certainly was not enough to go in after the rocket too."

"I hope they make it," said Willard, watching the blip of the *Traveler* moving in a steady intersecting orbit toward the smaller blip of the robot rocket.

"They'd better make it, Boris!" snapped Strong.

"Aw, dry up, Strong!" bellowed Willard. "Even if the cadets do get back, how long do you think you guys will be around to spill the beans? It would be kind of foolish, wouldn't it, to make a big haul, taking the chances we've taken, and then let you get back to the Solar Guard and blast us, wouldn't it?"

"You haven't got the guts to murder five people in cold blood!" challenged Strong, his eyes flashing.

"That's right, I ain't," said Willard. "But ain't nothing to stop me from leaving you five out here to murder each other when you find out you ain't got enough fuel to get home!"

Strong strained against the thin wire binding him to the acceleration chair.

Willard grunted. "Relax, Strong. You ain't going no place and

you're just cutting your wrists on that wire."

"Hey, look, Boris!" cried Lister, who had continued to watch the *Traveler* and the orbiting robot rocket grow closer together. "They're intercepting the rocket now! I never thought that old wagon could move like that!"

"It won't be long now," said Willard. "I just hope they got enough fuel left to get out of there again!"

Fascinated with the drama unfolding on the radar scanner, the two men hunched over the screen and watched as the two white blips converged.

* * *

"What's the matter, Astro?" demanded Tom.

"The emergency pumps we built!" yelled Astro over the intercom. "They're not working properly. There must be something clogging the feeders!"

"Can you fix it?" asked Tom, his eyes on the scanner image relayed from the radar-bridge scanner. The blip of the robot rocket was rapidly nearing the point of contact.

"Yes, but it's a question of how much time we have before we have to start matching speed with the robot."

"We have about fifteen minutes," supplied T.J., who had been listening to the conversation.

"Not enough," said Astro.

"But we've *got* to match speed with the rocket!" said Tom. "Isn't there anything we can do?"

"Nothing, unless you want to wait for her to come around again," replied Astro.

"Wait a minute, Tom," said Alex, sitting beside the command cadet. "Astro, how much speed can you get up?"

"I can match the speed of the robot now, but I don't know how long I can sustain it. That's the whole point. Without those extra pumps, I don't think I can keep this reactant mass cool enough to prevent an explosion."

"But can you get up to the speed of the rocket for-say, for about a minute?"

"Sure," said Astro. "But what good will that do?" The big cadet's voice was filled with defeat. "What can you do in a minute? There's hardly enough time to get aboard the rocket."

"Just sit tight, Astro," said Alex and turned to Tom. "Tom, I've got an idea. Suppose one of us goes aboard the rocket and stays aboard making a complete trip around Sirius, and meets you again later. By that time Astro should have the pumps fixed, and you can come alongside the rocket and pick him up."

"That's out!" said Tom automatically. "I've gone far enough with this idea. I'm sorry, Alex." He shook his head. "I couldn't let you do that."

"Listen, Tom," said Alex desperately, "it's not only for the information. After all, we got almost all the information we need by finding the U-235 on Thor. And *we* could always send out another robot from the Academy. This is something personal."

Tom looked at him, puzzled. "Personal?"

Alex Monroe nodded, his eyes shining. "Tom, everything we've been through on this trip, I went through too, but it wasn't just me. The decision and the ideas came from you or Astro or T.J. I knew I could always depend on you guys to save my neck if anything happened. So I haven't really put my own-" Alex paused-"my own courage to a complete test. An isolated test. *I want to ride that rocket around the sun!"*

Tom looked deep into the eyes of the young physics student, his shipmate and his newest friend. Again he was faced with the heavy responsibility of decision. Was he experienced enough to correctly evaluate Alex's chances for survival? Did he have the right

to permit or deny a man the opportunity to test his courage and find out for himself whether he could function as an efficient spaceman?

Alex waited for Tom's decision anxiously, and finally Tom shook his head. "I'm sorry, Alex," he said, "we made a good try for the rocket, but there's nothing else we can do."

"Tom, you've got to let me try it!"

"You don't know what you're asking, Alex," said Tom, avoiding the other's eyes.

Astro suddenly burst into the control deck, his eyes flashing, his fist balled. He strode forward, body glistening with sweat, the rocket jockey's tools and wrenches clanging at every step, as they dangled from the heavy leather belt.

"Tom!" he barked. "I just heard what you said over the intercom and now I want to tell *you* something."

"Get below, Astro!" snapped Tom. "This has nothing to do with you at all. Get below!"

"Is that the kind of orders you've learned to give!" barked the big cadet, glaring at his best friend and unit mate. "Sure, you can order me below, and I'll have to go. But not before I tell you something, Tom. I've been with you through just about everything two guys can go through and come out in one piece. And always, right down the line, you've been a brilliant leader-yes, by the craters of Luna, brilliant!"

"We've got to blast out of here," said Tom coldly. "For the last time, get below!"

"Not before you've heard me out!" snapped Astro.

"All right," said Tom coldly. "Speak your piece."

"Every one of us has a job we're supposed to learn before we can graduate from the Academy and become Solar Guard officers. With Roger Manning and T.J. it's radar, electronics, communications, astrogation. With me, it's mechanical application of

nucleonics. And with you it's flying and the responsibility of command. Get that, Corbett! *Command!"*

Tom was shocked by the unexpected blast from Astro. Never had there been harsh words between them until this moment.

"I know my job," Astro continued, "Roger and T.J. know their jobs, but I'm beginning to doubt if you know yours! Being in command of a ship and of men, being responsible for the lives of your passengers and crew is more than just turning a few switches and giving orders on the control deck. We've got automatic gear that can handle a ship better than you or anyone else. They put a commander on a ship to make decisions! Big decisions like the one you're avoiding right now. Have you ever thought about what it's going to be like when you get that black-and-gold officer's uniform? You think it's all going to be a bed of roses? You're going to have to tell me to do things that are dangerous and that you want to do yourself, but you don't dare, because if you're lost, then the crew is without a skipper and the ship is lost. Of course it's dangerous for Monroe to go out in the rocket-of course you want to go yourself and would go, if I wasn't big enough to stop you. So what do you do? Instead of facing the decision of sending a man-possibly to his death-so he can find out the depth of his courage, you back out! You haven't got the guts to be a commander, Corbett!" roared the big cadet. "You haven't the courage to be able to tell a guy *'Go out there and get yourself killed, because I'm the commander and I'm telling you to!'"*

Astro stopped abruptly and clamped his jaw shut.

Tom Corbett stared at his friend and at the eager, expectant face of Alex Monroe. Thistle had heard the yelling and had come down from the radar deck.

So this is what it takes to be a leader, thought Tom. This is the reason for so many searching psychological examinations before you are assigned to a position on a ship, why there are so few command cadets, why there are so many astrogators and power jockeys.

Tom stood up. His jaw was set. "Thank you, Astro," he said.

"Thank you for teaching me what it means to be a commander."

"What are you going to do?" asked Astro.

Alex and T.J. waited anxiously.

"Get ready to board the rocket when we come alongside, Monroe," said Tom, turning to the cadet. "This is your job, the one you've been trained to do. Get the information out of that rocket. We'll give you all the support we can, but you'll have to go aboard alone."

"Thank you, Tom," said Monroe. "You'll be a great skipper someday."

"He's a great skipper right now!" said Astro.

"Cut the chatter!" Tom snapped. "Stand by to board rocket!"

And there was no mistake about it, there was more authority in his voice, more confidence, more determination than Astro had ever heard before.

CHAPTER 18

"All checked out, Tom," T.J. reported into the intercom.

"Very well," Tom's voice replied over the air-lock loud-speaker. "Stand by. Two minutes before boarding time."

T.J. made a last-minute check of the space-suited figure of Alex Monroe standing in the air lock of the *Traveler.* "You're all set," said the small cadet. "Remember, as soon as the pressure gauge starts dropping, turn on your oxygen. Got it?"

"Right."

"Spaceman's luck, Alex."

"Thanks," said the young cadet, who was going to test his courage and to do the job he was trained to do.

T.J. stepped out of the air lock, closed the portal, and hurried to the radar bridge.

"One minute before boarding time," said Tom over the intercom.

"Robot rocket steady on orbit," announced T.J. from the radar bridge. "But we need more speed to catch up to her."

"More power, Astro," said Tom coolly into the intercom.

"Power, aye!" came the reply from the power deck, followed by a screaming whine that began to build to a piercing shriek as more and more pressure was applied to the straining cooling pump.

"Thirty seconds to boarding time. Open hatch!" ordered Tom.

"Hatch open," replied Monroe from the air lock.

"Rocket hundred feet ahead of us. Coming up to starboard!" reported T.J. from the radar bridge.

"I can see the rocket!" called Monroe. "I'm ready."

"Fifteen seconds," said Tom.

"Fifty feet!" reported T.J.

"Ten seconds!"

"Twenty-five feet!"

Operating on only one pump, the ship began to shake violently under the pressure of the speed.

"Five seconds, four, three, two, one-*Jump!"* roared Tom into the intercom.

On the radar bridge, T.J. saw the figure of Monroe jump into space and then become a part of the outline of the rocket.

"Reduce thrust!" Tom's voice roared over the intercom.

"Power deck, aye!" replied Astro, and immediately the vibration that had rocked the hulking freighter subsided.

"All right, Astro, get to work on those emergency pumps," Tom ordered. "And, T.J., I want a report every five minutes on the position, altitude, and speed of the robot!"

"O.K., Tom," replied T.J. "Monroe's just getting the hatch open now. So far so good."

Putting the ship on automatic pilot, Tom left the control deck to join Astro on the power deck. He found the giant Venusian already stripped to the waist and pulling on a protective lead-lined suit.

"I'll help you," said Torn, stripping to the waist and grabbing another lead-lined suit.

Without any further conversation, the two cadets began to tear down and rebuild the extra pumps, working against time to be ready to meet the robot rocket again when it had completed its orbit around the twin stars of Sirius.

"Altitude estimated," came T.J.'s voice over the intercom loud-speaker, "three million five hundred fifty-seven thousand miles from sun, twenty-two thousand miles from point of no return."

Tom paused to listen to the report, and then resumed his work with Astro, a frown of worry creasing his forehead.

Astro looked at him sympathetically. "Stop worrying about him, Tom," he said. "It's worse when you think about it."

"I know," said Tom bitterly. "Come on. Let's get this thing working." He renewed his efforts with sudden ferocity. If anything happened to Monroe, it would not be for any lack of effort on his part or Astro's.

On the radar bridge, T. J. Thistle sat at the scanner watching the blip of the robot rocket as it spun dizzily around the twin stars. He worked steadily at the electronic computer, calculating speed, altitude, gravity force on the rocket, probable fuel capacity and all possible factors. He refused to allow his mind to wander, refused to think about what Monroe was going through. It was easy enough to calculate the estimated temperature aboard the rocket as it flew near the blazing sun, and he could well imagine the heat Monroe was suffering.

"Five-minute report," he called over the intercom. "Robot now reaching one hundred and eighty degree position of its orbit. It is in diametric opposition to the position of our ship." He paused and glanced at the scanner which showed the twin suns directly between the robot and the freighter.

"She's starting to swing around," he continued over the intercom. "I hope you fellows will be ready. We only have one chance to save Monroe!"

* * *

"Are you sure he went inside the robot?" demanded Boris Willard.

"I'm telling you what I saw," said Lister hotly, but with awe in his

voice. "They pulled up alongside the rocket, and then a guy in a space suit went aboard the rocket. The *Traveler is* standing still in space, probably waiting for the rocket to come around again."

Boris Willard shook his head. "Blast it!" he muttered. "Why didn't they couple to the projectile and blast out of there with the thing in one piece instead of putting a guy aboard to ride around Sirius?"

"Probably didn't have enough reactant," replied Lister, "or if they did, one set of pumps wouldn't be enough to supply power to pull both the *Traveler* and the rocket out of the grip of the sun."

"I don't see how they managed to get as far as they did on those pumps," commented Willard. He turned back to Strong.

"Well, Strong," he said with a grin, "it's sure going to be rough on those kids to find out all their hard work and ingenuity was for nothing."

"Don't bank on it, Willard!" snapped Strong. "That same ingenuity will figure out some way to take care of you, too!"

"Oh, I'll admit they're brave enough," acknowledged Willard. "I gotta hand them that. But it's going to take more than guts to mess us up now. We're holding all the cards. Our ace in the hole is the six-inch blasters, and you're the joker!"

Lister and Willard broke out into a roaring laugh. Captain Steve Strong glared at them. His mind worked furiously in a vain attempt to find some means of warning Tom and the others on the freighter. He knew that Tom would refuse to surrender-and the cadets wouldn't stand a chance with a merciless man like Willard.

"Let's make a deal, Willard," he said at length.

Boris winked at Lister. "What kind of a deal?"

"You can have the information out of the robot rocket if you'll leave the cadets alone."

"Why should I make a deal with you? I just told you there ain't nothing you or the cadets can do to stop us now. You gotta have

something to offer to make a deal. You ain't got nothing I want."

"Immunity," said Strong.

"Immunity!" sneered Willard. "You're kidding me, Strong. I suppose you're going to tell me you'll guarantee me no action will be taken when we get back to Atom City. Is that right?"

"That's what I had in mind," said Strong.

"No good!" snapped Boris Willard. "You know that private agreements are not binding when made by individual officers. They have to pass a board of review of the Solar Guard-and that means Connel. And Major Connel won't approve anything that smells crooked."

"What do you take us for? A coupla jerks?" Lister growled.

"That's exactly what you are," said Strong coldly, "if you think you can get away with this scheme."

Boris laughed. "We don't think, Strong, we *knowr*

"As you said," Strong commented harshly, "Connel won't touch anything that's crooked. So when you show up with the claim and proof for the uranium strike on Thor, do you think he would approve your claim? Especially when four cadets, an officer, and a heavy cruiser don't return?"

"Connel ain't got no choice, Strong," sneered Lister. "He'll have to approve our claim because it'll be presented nice and legitimate."

"Legitimate!" exclaimed Strong. "You're bigger fools than I thought you were. This stunt of yours smells from here to Pluto!"

"It does, huh?" Willard grinned. "Well, listen to this. As soon as we clean up those cadets and collect the dope from the robot rocket, the *Polaris* is going to send out a distress call. It's been hit by a meteor. It's out of control. And just in case the call doesn't get through, we'll make sure that it's recorded on the ship's audio-reference tape so that someday, if and when the *Polaris* is found, they'll know what made her crash."

"Crash!" exclaimed Strong involuntarily.

"That's right," Lister chimed in. "The *Polaris* is going to splash herself all over the satellite. There'll be nothing left of her but little pieces."

"Connel will see through that dodge," Strong blurted loudly, trying to cover a sudden uneasiness at his enemies' confidence.

"He can see whatever he wants," announced Willard. "But he won't be able to prove anything and he won't be able to tie us up with it."

"Why not?" asked Strong, inwardly praying that their arrogance would make them reveal their entire plan.

"Because we'll be far away from here," replied Lister, falling into the trap. "After we set up the terrible accident, we'll blast over to Alpha Proxima. That's where we're supposed to be, according to our flight plan. We're just a couple of crummy space prospectors, looking for a big strike." He grinned evilly and then laughed. "And are we hitting it!"

"That won't make sense if you file the information on a claim near Sirius," pursued Strong, trying to keep the eagerness out of his voice.

"It'll make plenty of sense in about a month, Strong," replied Willard. "You see, we're going to be taking the long way home. Past Sirius as a matter of fact. And we're going to have a breakdown ourselves. Pretty close to the satellite."

"We'll even send out a distress alert," chortled Lister. "Poor space tramps in their beat-up old ship-they need help bad."

"But those space tramps are going to be lucky," continued Willard. "While they're drifting around, they're going to pick up all the dope on the satellite on their own instruments-more than enough to stake a claim-and that'll be that. Connel or nobody can say we didn't get the information legitimate."

"Not if you give him the records from the robot," snapped

Strong, feeling trapped.

"We ain't that dumb, Strong." Lister laughed. "We'll just copy enough of the robot's information to stake the claim and then leave the stuff in the *Polaris* for the Solar Guard to find. Of course, it'll be too badly burned to make any sense at all and the Solar Guard won't be able to stake any claim based on it."

"How about it, Strong?" asked Willard. "Think we got a good case?"

Strong stared at the two men, his heart sinking. He realized that their scheme was almost foolproof. As they laughed and turned back to the scanner, he twisted helplessly against the wires that held his wrists behind him. His hands felt clammy and wet, and he looked over his head to see if there was any condensation on the bulkhead above his head, but there wasn't any. Then he realized that he had cut his wrists on the wire and that the clamminess he felt was his own blood.

He slumped over, his mind refusing to accept what seemed to be the cadets' and his inevitable end. But there was nothing he could do to stop Lister and Willard.

"The rocket's coming around the other side now," said Lister, watching the scanner closely.

Boris hunched over the screen beside his partner and watched the blips of the freighter and the rocket. "Boy, I sure hope they make it!" he said. "It would be a downright shame if we had to bump those guys off for nothing!"

* * *

In the cramped quarters of the robot rocket, where every available inch of space had been utilized for the delicate instruments, Alex Monroe forced himself to forget that he was all alone in the tiny projectile; that he would fall into the sun and die if Tom and the others failed to pick him up on the next turn around.

He moved around the small area as though he were a man at

home. It was not too difficult to imagine that the robot rocket was on the ground, safely inside the hangar at Titan where he and Professor Sykes and Dr. Dale had built the robot and installed the instruments.

Once Alex Monroe had made the break from the *Traveler* and he was alone inside the tiny robot, it seemed the most natural thing in the world to be a courageous man. There was no question in his mind that Tom, Astro, and T.J. would pick him up when the robot had completed its orbit around Sirius. Alex tasted courage and found it to his liking.

It was a confident cadet, who, working against time, stripped the audio spools from their turntables, removed strips of film hardly larger than wire, and copied invaluable data from the radiation counters. This was indeed a different Monroe from the one who had first set out on the mission.

He went from one instrument to another, checking them carefully and stripping them of their information, and putting it into a small bag that dangled from his belt.

Alex Monroe was not aware that he was another excellent example of the type of man being developed in the year 2356, or that spacemen of the unforeseen future would look back on the dangers he now faced as being the foundation for their own world.

Without realizing it, Alex's behavior could have been predicted with careful accuracy by the Academy Entrance Examiners. No one became a Space Cadet unless he could be depended upon. But confidence, the wise old heads at Space Academy knew, must come from a desire inside the individual. It was not his valor they saw when he entered the Academy, it was the desire to be the possessor of valor.

CHAPTER 19

"Here she comes!" T.J.'s voice roared over the intercom.

"Give me speed, Astro!" Tom called, his eyes on the scanner where the blip of the rocket was rapidly approaching the center of the grid. Tom held his finger on the switch, ready to open the hatch of the air-lock chamber.

"More speed!" yelled T.J. "We're not catching up to her!"

On the power deck, Astro advanced his acceleration lever. Reaction fuel poured into the firing chamber, but before it could reach the chamber, it would have to pass the cooling pumps. It was on the jerry-built pumps that the giant Venusian's attention focused. It was in the complicated mass of pipe, steel, lead, and baffling that the success or failure of their desperate attempt rested. His hands gripping the lever, ready to cut down speed should the pumps begin to show signs of failure, the big cadet crossed his fingers and breathed a silent prayer.

"More speed, Astro!" Tom bellowed from the control deck.

Astro advanced the lever another notch, and the indicator beside the pumps began to climb as the reactant was forced into the firing chamber. Noticeably, the *Traveler* began to pick up speed.

"More, Astro! We're gaining on her but we need more speed!" yelled Tom.

Hesitating only momentarily, Astro slammed the lever into the last notch. There was a hissing noise that rose above the other sounds on the power deck, and the reactant poured through the cooling pumps. In response, the freighter literally leaped ahead as the energy was converted into gases and blasted through the exhaust tubes.

"That's it! That's it!" cried Tom. "Now we're picking up on her!"

Suddenly Tom's blood seemed to freeze. The hatch on the robot was closed! Why wasn't Monroe on the hull of the rocket, ready to climb aboard?

"Fifty feet!" yelled T.J. from the radar bridge. "Tom, Monroe is still inside the rocket!"

"I know!" said Tom. "Something must be wrong inside and he can't get out-or he doesn't know we're ready to take him off I Come below and take over the controls!"

"I've tried calling him on the communicator, but he doesn't answer! Electrical interference from Sirius must be jamming the circuits!"

"Come below!" bellowed Tom with authority. "Stop jabbering and take over the controls!"

T.J. was down the ladder and at Tom's side in two seconds. Before he could take his place in the copilot's chair, Tom was up and racing to the lower deck and the air-lock chamber.

"What are you going to do?" demanded Astro over the intercom. "What's going on up there?"

Tom did not take time to answer. He was too busy pulling on his space suit. But he could hear the voices of his unit mates over the air-lock loud-speaker.

"We're alongside, Tom!" T.J. called. "What's keeping you? Get going. This ship feels as if it's going to shake apart!"

"I can't sustain this speed much longer!" roared Astro from the power deck. "If I don't cut back soon, we're going to blow up!"

"No, don't, Astro!" screamed T.J. "You've got to keep it up!"

"We can't! We'll blow up, I tell you!"

"So we'll blow up!" roared the tiny cadet. "Don't cut back!"

Paying scant attention to T.J. and Astro, Tom coolly and quickly

completed dressing and put on his space helmet.

"I'm all set," he announced over his headset. "I'm lowering the pressure of the air lock!"

Watching the gauge, Tom moved over to the outer air-lock portal. When the dial registered zero, he opened the massive door and stood poised on the edge, staring at the robot rocket almost alongside.

"I'm five feet away from the stern of the rocket," said Tom over the helmet intercom. "Give me a little more speed, Astro."

"I can't," the big cadet replied. "There isn't another ounce of thrust left in this wagon."

"Then I'll have to jump!" said Tom.

"You're crazy!" roared Astro.

"Don't worry," said Tom with a slight chuckle. "I've made bigger jumps than that in space."

"You can make it," encouraged T.J. "Just be calm and don't give yourself too much of a push."

Tom stepped to the edge of the hatch, judged his distance, and gave a light shove with his feet. He left the side of the freighter and glided, weightless, toward the stem of the robot. As he moved, the young cadet relaxed his body and at the last possible moment flipped over and landed, feet first, on the hull of the robot. He felt the reassuring grip of his magnetic boots gripping the steel plates and breathed a sigh of relief. He immediately began walking toward the hatch of the tiny vessel, the hull of the *Traveler* looming up fifteen feet away like a huge sheer wall of steel.

He reached the hatch easily and dropped to one knee, grabbing the handle. He turned it slowly. It would not give. He twisted harder. He stretched out flat on the deck, grabbed the handle with both hands, and twisted with all his strength. Slowly, he felt the handle turn a quarter of an inch.

He changed his position and twisted again, gaining leverage with his whole body, pressing his body against the steel deck. The hatch gave another quarter of an inch.

Suddenly he noticed that the freighter had dropped back and away from the robot. The hatch that he had used was fifteen feet further behind the stern of the robot. Obviously, Astro was having difficulty in maintaining speed. Tom realized quickly that if he did not return to the freighter now he might not have another chance.

Tom fought against the urge to leap back aboard the freighter and he turned back to the handle of the hatch, summoning strength he never thought he possessed. The handle gave another quarter of an inch.

The *Traveler* was slipping back faster and faster now. He renewed his attack on the handle of the hatch, twisting it with the very last ounce of strength he had, and finally the handle spun free and the hatch cover lifted. Below him, in the brilliant light of the sun star Sirius, he could see the grinning face of Alex Monroe through the clear space helmet.

Without a word, Tom reached down and grabbed the cadet by the arm. Holding on to the edge of the hatch, so that the movement would not send them shooting off into space, he pulled the cadet up and out on the hull of the robot.

Unable to talk to each other over the intercom because of the electrical interference from Sirius, Tom gestured to Monroe, using sign language to explain the situation.

When Monroe nodded that he understood, Tom indicated that Monroe was to jump first.

The steel hull of the *Traveler* was more than twenty feet astern of the rocket as Monroe, completely at ease, shot out toward the freighter. He flipped over easily in midspace and landed, feet first, on the steel hull of the *Traveler.*

Tom waved his hand and stood up. He looked at the ever-widening gap between the ship and the robot, and then blotted every

thought out of his mind in an effort to relax the tension that was surging through his body. Taking a deep breath, he leaped.

Drifting across the chasm that separated the two space vessels, he flipped over completely to glide, feet-first, and seconds later felt a tug at his boots. He looked down. His feet were firmly planted on the steel hull of the *Traveler*. He looked around. The stern of the rocket was now more than thirty feet away.

Breathing a silent prayer of gratitude, Tom motioned Alex toward the midships hatch, and taking careful, cautious steps, they both made their way back to the safety of the air lock.

Once inside, with the outside hatch closed and the pressure equalized, the two cadets stripped off their helmets.

"Thanks, Tom!" were Monroe's first words. "I couldn't get that hatch open."

"I figured as much," said Tom. "Did you get all the information?"

Monroe patted the bag hanging from his belt. "It's all here. And from the little I read, this operation is a tremendous success. Far more than we had hoped."

"Good!" said Tom shortly. "But let's hold the congratulations. We still have work to do!"

Tom opened the portal leading to the ship and, still wearing the cumbersome space suit, hurried to the control deck. T.J. greeted him with a grin and slapped him on the back.

Tom smiled his acknowledgment and reached for the intercom mike. "Astro!" he called. "Give me a ten-second blast on the starboard steering rockets. And pour it on! We're getting out of here!"

"Aye, aye, skipper!" the giant Venusian's voice bellowed happily from the power deck.

A few seconds later Tom, T.J., and Monroe were nearly thrown to the deck as the sudden burst of power took the freighter away

from the deadly grip of the sun.

Tom sat before the scanner and watched the sun star and the robot rocket recede quickly.

"The next order of business," he declared in a firm, clear voice, "is to find Captain Strong!"

CHAPTER 20

"All right, Lister, stand by the blasters! Here they come!"

Boris Willard and Hank Lister had flown the *Polaris* out of the protective blanket of the methane ammonia atmosphere in which they had remained hidden and now blasted toward the old space freighter.

"I'll come up alongside of it without communicating with them," called Willard over the intercom. "Get a bead on them but don't be too touchy with that trigger! We don't wanta blast them before we get the information. We'll try to get them aboard first."

"Check," replied Lister from the gun deck. He had removed the cover of the giant six-inch gun and loaded it with an atomic shell. Staring into the range finder, he saw that the *Traveler* was a sitting duck and could be blasted out of existence by one touch of his finger.

On the control deck, Boris Willard turned and grinned at Strong who had been gagged. "Well, Strong, it looks like everything's almost over," he chortled.

Strong made a muffled sound through the gag in his mouth.

"What's that you said?" asked Willard with a sneering laugh. "You don't talk so good, do you?"

Boris turned his back on the young captain and concentrated on maneuvering the *Polaris* on a parallel course to the *Traveler,* as the freighter blasted toward them.

"Just keep coming, you young punks," he muttered, "just keep coming and get the surprise of your lives!"

"Corbett over to the *Polaris.* Check in, Captain Strong!"

Tom sat on the control deck of the *Traveler,* watching the

Polaris blast toward them and then swing onto a parallel course.

"Come in, Captain Strong! This is Corbett on the *Traveler!* Come in!"

The *Polaris* had now swung around and was on the same course as the freighter, but there was still no answer from Captain Strong.

* * *

Tom's brow was creased in thought. Suddenly he snapped his fingers! He flipped off the communicator key and called Astro, T.J., and Monroe to the control deck. When they appeared, he pointed to the *Polaris,* clearly visible through the viewport.

"We've been so busy trying to get the projectile's information and a hundred other things that we haven't given much thought to how and why we found this freighter deserted in the mists over Thor."

The boys nodded in agreement. "Now, look," said Tom seriously, "suppose the men who brought this ship out here were not lost in the mists of Thor but had laid a trap for Captain Strong!"

"Go on," said Astro.

"Well, assuming whoever they are, are after the robot, and knowing that there wasn't anything they could do while we were down in the sun trying to get the information, wouldn't they wait until we got back and then try to hijack the information?"

"Sure," said T.J., "but you're assuming whoever they are have taken over the *Polaris.* How can you be sure?"

"I can't be sure," said Tom. "But there isn't any other explanation for Captain Strong not acknowledging my calls. You know how long I've been trying to get him on the communicator."

"Suppose his gear's been knocked out," offered Monroe.

"Then he'd certainly try to make some sort of signal," replied

Tom. "Even if it was an old trick like Morse code with a light!"

"Then you think whoever brought this ship out here has taken over the *Polaris?"* asked T.J.

"Exactly," said Tom. "And if I'm wrong, then it won't be the first time and we've played it safe."

"All right," said Astro, "that sounds reasonable enough and ought to be easy to find out. Got any ideas?"

Tom nodded his head. "Whoever is on that ship with Captain Strong knows there are four of us. Suppose Astro gets on the communicator and tells Strong that I have been killed and that T.J. is badly injured, and we need medical supplies from the *Polaris* right away! Then we couple to the *Polaris,* and Astro and Monroe go aboard the *Polaris* carrying T.J. in a stretcher while I hide out."

"Sounds O.K. to me," said Astro thoughtfully.

"Sure," agreed T.J.

Monroe nodded.

"O.K., get on the communicator, Astro, and tell them just what I said," ordered Tom. "Alex, you help T.J. get bandaged up. Make it look as if he was hurt pretty bad."

Astro sat before the control panel and opened the communicator key. He began calling Captain Strong and repeated the story Tom had devised. Meanwhile, Alex bandaged T.J. and placed him in a stretcher with a paralo-ray gun cleverly concealed in the bandages. Tom hurried below to the air-lock chamber and donned a space suit again. He stood beside the hatch, ready to slip outside and cross over to the *Polaris* the moment it came alongside. Through his helmet intercom, Tom could hear Astro broadcasting the story of their need for help.

Again and again he heard Astro call for aid but in the air lock Tom had no way of knowing how close the ships were, until he heard the unmistakable hum of the magnetic grapplers in operation, and a few seconds later felt the slight jolt of the ships coming

together. Opening the hatch quickly, he slipped out and jumped across the gap of space to the *Polaris.*

His magnetic-soled space boots gripping the steel hull plates of the *Polaris,* he walked hurriedly to the stern, and finding the emergency escape hatch that could be opened from the outside, he slipped into the ship.

Safely inside, he stripped off the space suit and made his way forward. From somewhere in the forward part of the ship came the sound of voices.

He stopped and tried to hear what was being said, but the oxygen pumps were making so much noise that he could not distinguish a word. Continuing forward, along the corridors that were as familiar to him as the palms of his hands, he reached one of the arms lockers. Gratefully, he strapped on two paralo-ray guns and lifted the satisfying bulk of a heat-blasting rifle to his shoulder. Closing the locker, he continued on through the ship cautiously.

"Stand where you are, or I'll blast you!" Tom heard a harsh voice say. He stopped, his heart racing, and waited for further conversation to determine how many men there were and where they were located. He recognized Astro's bellow now. The Venusian's words were clear and distinct, his voice filled with rage.

"Why, you dirty space crawlers, I'll wipe the deck with you!"

There was a loud crash, several distinct blows loud enough to have only come from Astro's fists, the unmistakable hiss of a paralo-ray gun, and finally silence, a deep menacing silence.

Tom moved on down the companionway toward the control deck where he was sure the fight had taken place. Reaching the ladder leading up to it, he paused. He could hear everything now.

"Wake up, Lister," a voice said topside. "He didn't hit you that hard!"

Tom heard several moans and he grinned. Astro had hit him that hard.

"Come on," urged the voice. "If they tried to trick us with that stretcher gag, Corbett must be around somewhere, too. You take the starboard side, I'll take the port! Shoot first and ask questions later!"

"What about the others?" Tom heard another voice groan.

"They're all frozen. I gave them a paralo-ray blast. They won't be any trouble. But Corbett will be if we don't find him. Now get moving!"

Tom quickly ducked back into the shadows, taking a position where he could see the ladder clearly. Before the two men could split up and begin searching the starboard and port sides of the ship, they would have to come down that ladder.

Holding both ray guns tightly, he waited. He heard footsteps on the deck over his head, shuffling toward the ladder. Raising the guns, he sighted at the top rungs. A second later the figure of a man came into view. It was Lister.

Tom waited until he was directly in his sight, and fired both guns simultaneously. He caught Lister with both beams of the paralo rays, and he immediately froze and dropped to the deck, still in the rigid climbing attitude.

But Willard was too quick for Tom. An experienced fighter, he knew how to operate under fire and he had his wits about him. No sooner had the beams of Tom's paralo-ray guns stiffened Lister, who had been two steps ahead of him, than Willard ducked back in the hatch and from behind his protective cover began firing his heat blaster in a spasm of furiously exploding flame.

Tom jerked back just in time, but not before a near miss had touched his guns, knocking them out of his hands. He did not stop to pick them up. He fell back and ran, his mouth dry and heart throbbing. His mind raced trying to figure out what his enemy would do. Behind him, he could hear Willard's heavy steps. Tom knew he would have to find cover before he could make another stand. Suddenly he remembered the spare lead shields on the power deck.

Running madly, he reached the power-deck hatch and slithered down the metal ladder into the deserted compartment. Without hesitation, he unslung the heat-blasting rifle from his shoulder and scrambled behind the huge lead shields that were propped up in a corner near the supply locker.

Slipping the barrel of the rifle into one of the holes in the shield used for pipe connections, Tom sighted on the ladder that led down into the power deck. Sooner or later, he knew, the man would have to come down to get him.

He began to sweat from the heat on the power deck. His vision was blurred and he had difficulty seeing, but he did not move. If the two men had gone as far as they had in their desperate attempt to get the information from the robot rocket, they would go further, and the only thing left was death for all of them.

He suddenly stiffened as he heard light footsteps on the deck overhead, approaching the hatch. His finger coiled around the trigger of the gun. He waited breathlessly.

But Boris Willard anticipated the trap. Instead of climbing down the ladder, an easy target, he dropped through the hatch, landing lightly on his feet, his heat rifle ready to fire.

Tom's jaw tightened. There could be no bluff now. One of them would never take another step outside the power deck.

"Drop your gun, mister," called Tom, "or I'll burn you to a crisp!"

With lightninglike speed Boris Willard dropped to the deck and fired at the lead shield. At the same instant, Tom fired his rifle.

There was a blinding flash and searing heat. Tom was momentarily dazed. When he recovered his senses, he saw that Willard's blast had melted nearly all the lead shield around his gun. Raising his head cautiously, Tom looked out. He saw he had not missed.

There was a glowing spot on the steel deck where Boris Willard had stood. Of the man there wasn't even an indication that he had

ever existed.

* * *

"Well, they've taken Jack Wilson into custody and he's confessed," declared Strong, turning back from the long-range communicator. "And with Lister's confession, there's no doubt both of them will spend the rest of their lives on Prison Rock."

As the four cadets grinned happily, Strong rose to face Tom directly, his face oddly stern.

"Of course," he continued, "I should see that you four are disciplined when we get back to the Academy for disobeying orders!" He turned to Tom. "I told you to remain outside the atmosphere of Thor until I returned."

"But if he had, sir," Astro interrupted gently, "T.J. and I wouldn't be here listening to you bawl us out."

Strong's face darkened, then slowly brightened. "I should know by this time that I can't win an argument with the *Polaris* unit," he admitted.

T.J. cleared his throat. "You think we could get a liberty after this operation is over, sir?" he asked.

"Liberty!" Strong roared.

"Yes, sir," replied T.J. blandly. "I'd like some time to get better acquainted with Astro."

Strong laughed. "All right, Thistle," he said. "In fact you'll all get a long leave. You deserve it after this job."

"There's only one regret, sir," Tom said.

"What's that, Tom?" asked Strong.

Tom gripped Alex Monroe by the shoulder. "That there can't be four cadets in a unit, instead of three."

"But that doesn't stop us from being friends," said Alex Monroe with a smile at Tom Corbett who had given him the opportunity to prove that he had courage.

Alex's expression of good fellowship and understanding brought back memories of Roger Manning. Tom recalled the many dangerous adventures that he, Astro, and Roger had shared and survived. He looked up and caught Astro's eye.

"I wonder what Roger's doing right now."

"I was just thinking about him," Astro replied. "I had a feeling that there was something missing-and there is! Roger."

T. J. Thistle, a gleam in his eye, slapped the big Venusian on the back. "Don't worry about it, old bean, pretty soon you'll have loving memories of me, too!"

THE END

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